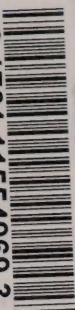


3 1761 11554969 3





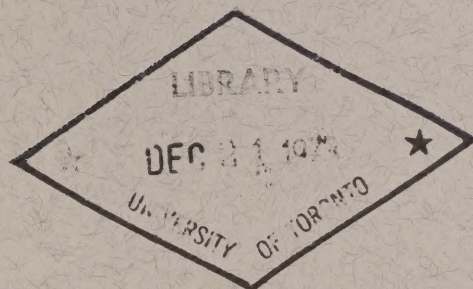
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<https://archive.org/details/31761115549693>

**OCEANOGRAPHIC OBSERVATIONS AT
OCEAN STATION P (50° N, 145° W)
VOLUME 53**

January 7 - May 18, 1972

D. Healey, P. Vandergugten and W. Hansen



ENVIRONMENT CANADA
Water Management Service
Marine Sciences Directorate
Pacific Region
1230 Government St.
Victoria, B.C.

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MARINE SCIENCES DIRECTORATE, PACIFIC REGION

PACIFIC MARINE SCIENCE REPORT 72-12

OCEANOGRAPHIC OBSERVATIONS AT OCEAN STATION P (50°N , 145°W)

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by

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Victoria, B.C.

Marine Sciences Directorate, Pacific Region

Environment Canada

July, 1972

FISHERIES RESEARCH BOARD TECHNICAL REPORT SERIES

ERRATA

TO

Technical Report No. 106

Page 1, Paragraph 4, Line 3 - "0.1 cycle per year" should read "5 cycles per year".

Technical Report No. 211

Page 71, Line 3 - Position "45-02.0N, 144-58.0W" should read "50-07.0N, 144-58.0W".

PACIFIC MARINE SCIENCES REPORT SERIES

ERRATA

TO

Pacific Marine Sciences Report 71-7

Page 1, 2nd Paragraph, Line - "Swiftsure Banck" should read "Swiftsure Bank".

Page 3, Line 18, Heading - "Marine Geophysics" should read "Marine Geochemical".

Page 5, Line 3 - "is temperature (decibars Celsius)" should read "is temperature (degrees Celsius)".

Pacific Marine Science Report 71-8

Page 6, Line 3 - "is temperature (decibars Celsius)" should read "is temperature (degrees Celsius)".

Pacific Marine Science Report 71-9

Page 56 - Longitude "145-53.0W" should read "144-53.0W".

Page 185, Line 2 - Date "22/4/71" should read "21/4/71".

Pacific Marine Science Report 72-1

Page 3, Line 23 - "Program of Observations from CCGS Quadra etc." should read "Program of Observations from CCGS Vancouver etc."

Page 178, Line 28 - Salinity value on "71 8 11 125 32.974" should read "31.974".

Pacific Marine Science Report 72-2

Page 43 - Position "49-04.9N, 142-04.0W" should read "49-49.0N, 142-40.0W".

Page 45 - Position "49-04.1, 140-04.0W" should read "49-41.0N, 140-40.0W".

Page 47 - Position "49-03.4N, 138-04.0W" should read "49-34.0N, 138-40.0W".

Page 49 - Position "49-02.6N, 136-04.0W" should read "49-26.0N, 136-40.0W".

Page 51 - Position "49-01.7N, 134-04.0W" should read "49-17.0N, 134-40.0W".

Page 53 - Position "49-01.0N, 132-04.0W" should read "49-10.0N, 132-40.0W".

Page 55 - Position "49-00.2N, 130-04.0W" should read "49-02.0N, 130-40.0W".

Page 57 - Position "48-05.1N, 128-04.0W" should read "48-51.0N, 128-40.0W".

Page 59 - Position "48-04.6N, 127-04.0W" should read "48-46.0N, 127-40.0W".

Page 61 - Position "48-04.2N, 126-04.0W" should read "48-42.0N, 126-40.0W".

Page 62 - Position "48-03.8N, 126-04.0W" should read "48-38.0N, 126-40.0W".

Page 63 - Position "48-03.3N, 125-03.3W" should read "48-33.0N, 125-33.0W".

STD Data - A Special Note

From information we have recently received from the manufacturer of the STD systems used on the weatherships Quadra and Vancouver, we must caution users of these data that the indicated depth data as shown in our data records read approximately 1% high. This error will apply to all published STD data from Weathership Cruises P-68-2 through P-72-9.

INTRODUCTION

Canadian operation of Ocean Weather Station P (latitude $50^{\circ}00'N$, longitude $145^{\circ}00'W$) was inaugurated in December, 1950. The station is manned by two vessels operated by the Marine Services Branch of the Ministry of Transport. They are the CCGS VANCOUVER AND THE CCGS QUADRA. Each ship remains on station for a period of six weeks, and is then relieved by the alternative ship, thus maintaining a continuous watch. The chief purpose of the station is to operate as a meteorological station for surface and upper-air observations and as an air-sea rescue station.

Bathythermograph observations have been made at Station P since July, 1952. A programme of more extensive oceanographic observations was commenced in August, 1956. This was further extended in April, 1959, by the addition of a series of oceanographic stations along the route to and from Station P and Swiftsure Bank. These stations are known as Line P stations. The number of stations on Line P has been increased twice and now consists of twelve stations (Fig. 1). Bathythermograph observations and surface salinity sample collections in addition to being made on Line P oceanographic stations are also made at odd meridians at $40'$ i.e. $139^{\circ}40'W$, $141^{\circ}40'W$, etc. These stations are known as Line P BT stations. Data observed prior to 1968 has been indexed by Collins et al, (1969).

The present record includes hydrographic and salinity-temperature-pressure data collected from the QUADRA during the period January 7 to February 24, 1972, from the VANCOUVER during the period February 18 to April 5, 1972, and from the QUADRA during the period March 31 to May 18, 1972.

All physical data have been archived by the Canadian Oceanographic Data Centre (CODC), 615 Booth Street, Ottawa, Ontario, Canada. Requests for these data should be directed to CODC.

Biological and productivity data are published in the Manuscript Report series of the Fisheries Research Board of Canada (FRB), the Biological Station, Nanaimo, B.C., Canada. Requests for these data should be directed to FRB.

Marine Geochemical data are for the Ocean Chemistry Group, Marine Sciences Directorate, Department of the Environment, 512-1230 Government Street, Victoria, B.C., Canada.

Bird observations are sent to Dr. M. Myres, University of Calgary, Calgary, Alberta, Canada; and Marine Mammal observations to Mr. I. McAskie, Fisheries Research Board of Canada, The Biological Station, Nanaimo, B.C., Canada.

Programme of observations from CCGS QUADRA, January 8 to February 24, 1972
(P-72-1) (C.O.D.C. Ref. No. 15-72-001)

Oceanographic observations were made by Mr. D. Healey, Marine Sciences Directorate, Department of the Environment. A special programme of radon sampling for Lamont-Doherty Geological Observatory was carried out by Messers T. Peng of Columbia University and P. Slater of the University of East Anglia.

En route to station P due to bad weather and a search and rescue operation, the regular line P programme was cancelled. The continuous temperature recorder was operated and surface nitrate and salinity samples obtained when ship was able to remain on line P.

At station P the oceanographic programme was carried out as follows:

I) Physical Oceanography

Profiles of salinity, temperature and oxygen were obtained as follows:

- 1) A total of 4 bottle casts to near bottom (4200 meters).
- 2) STD casts to 1500 meters following bottle casts.
- 3) Twice weekly STD casts to 300 meters.
- 4) Mechanical BT casts 8 times daily
- 5) Bucket surface salinity sample daily at 0000 hrs. GMT.

II) Biological and Productivity

These data were collected as follows:

- 1) Plankton
A total of 4-150 meter, 4-1200 meter vertical hauls and 8-10 minute surface tows. Micro-organisms were sampled daily from the ship's seawater loop.
- 2) Two profiles for pigment, nitrate and C¹⁴ productivity plus one surface sample.
- 3) Weekly secchi disk depth measurements.

III) Marine Geochemistry

Samples for Marine Geochemical studies were obtained as follows:

- 1) Oxygen - at standard depths from the bottle stations.
- 2) Nutrient samples for silicate, nitrate and phosphate daily plus hourly sampling for one period of 24 hours from the seawater loop.
- 3) Alkalinity samples every 3 days from the seawater loop.
- 4) Two seawater C-14 samples from the seawater loop.

IV) Marine Mammal, Bird and Data Gathered for Other Institutes

- 1) Marine mammal and bird observations were recorded
- 2) 11 profiles for radon were taken for Lamont-Doherty Geological Observatory.

En route from station P due to bad weather only station 3 was occupied and a 1200 meter STD cast was made. The continuous temperature-recorder was operated and surface samples for nitrates and salinities taken when the ship was able to remain on line P.

Programme of observations from CCGS VANCOUVER, February 18 to April 5, 1972 (P-72-2) (C.O.D.C. Ref. No. 15-72-002)

Oceanographic observations were made by Mr. P. Vandergugten, Marine Sciences Directorate, Department of the Environment.

En route to station P stations 1 and 2 were occupied and STD casts were made to near bottom. The weather worsened and the rest of line P hydro and BT station observations were confined to XBT casts and surface salinity and nitrate samples except for 11 and 12 where the XBT casts became impossible to make.

At station P the oceanographic programme was carried out as follows:

I) Physical Oceanography

Profiles of salinity, temperature and oxygen were obtained as follows:

- 1) Weekly bottle casts to near bottom (4200 meters).
- 2) Weekly STD casts to 1500 meters following bottle casts.
- 3) Twice weekly STD casts to 300 meters.
- 4) Mechanical BT casts 8 times daily.
- 5) Bucket surface salinity sample daily at 0000 hrs. GMT.

II) Biological and Productivity

These data were collected as follows:

- 1) Plankton
A total of 21-50 meter, 21-150 meter, 2-1200 meter vertical hauls and 7-10 minute horizontal tows were made. Daily sampling from the ship's seawater loop for micro-organisms.
- 2) Two profiles and 3 surface samples for pigment, nitrate and C^{14} productivity.
- 3) Weekly secchi disk depth measurements.

III) Marine Geochemistry

Samples for Marine Geochemical studies were obtained as follows:

- 1) Oxygen - weekly at standard depths from the hydro casts.
- 2) Nutrients - daily samples for silicate, nitrate and phosphate, plus hourly sampling for one 24 hour period from the seawater loop. Comparison silicate samples for the manual method plus one phosphate profile from a hydro cast were also collected.

- 3) Alkalinity samples every three days from the seawater loop.
- 4) One $C^{14}O_2$ sample from the seawater loop.
- 5) Air and total CO_2 samples collected simultaneously once a week.

IV) Marine Mammal, Bird and Data Gathered for Other Institutes

- 1) Marine mammal and bird observations were recorded.
- 2) Rainwater samples were collected for Scripps Institute of Oceanography, LaJolla, California, U.S.A.
- 3) A total of 211 salmon and 6 lancet fish were caught in the fishing programme.

En route from station P, stations 12 to 8 inclusive and 6 to 4 inclusive were occupied and an STD cast to 1500 meters was made, except for station 8 at which the cast was to 375 meters only. BT or XBT casts were made and surface salinity and nitrate samples taken at all line P hydro and BT stations.

Programme of observations from CCGS QUADRA, March 31 to May 17, 1972.
(P-72-3) (CODC Ref. No. 15-72-003).

Oceanographic observations were made by Mr. W. Hansen, Marine Sciences Directorate, Department of the Environment.

En route to station P the STD failed at station 1. Stations 8 to 10 inclusive were occupied and bottle casts were made to 1500, 3500 and 600 meters respectively. Mechanical or XBT casts were made and surface salinity, nitrate and phosphate samples collected at all line P hydro and BT stations except No. 12.

At station P the oceanographic programme was carried out as follows:

I) Physical Oceanography

Profiles of salinity, temperature and oxygen were obtained as follows:

- 1) Weekly bottle casts to near bottom (4200 meters). (First week missed due to adverse weather). Two extra casts to 600 meters.
- 2) A total of 3-1500 meter STD casts.
- 3) Mechanical BT casts 8 times daily.
- 4) Bucket surface salinity sample daily at 0000 hrs. GMT.

II) Biological and Productivity

These data were collected as follows:

- 1) Plankton
A total of 23-50 meter, 23-150 meter and 3-1200 meter vertical hauls were made. Daily micro-organism samples were taken from the seawater loop.
- 2) Three profiles and 3 surface samples for pigment, nitrate and C^{14} productivity.

III) Marine Geochemistry

Samples for marine geochemical studies were obtained as follows:

- 1) Oxygen- weekly at standard depths from the hydrographic casts.
- 2) Nutrient samples for silicate, nitrate and phosphate daily plus hourly sampling for one 24 hour period from the seawater loop.
- 3) Alkalinity samples every three days from the seawater loop.
- 4) Two $C^{14}O_2$ samples from the seawater loop.
- 5) Duplicate air samples for CO_2 analysis once a week.

IV) Marine Mammal, Bird and Data Gathered for Other Institutes

- 1) Marine mammal and bird observations were recorded.
- 2) Rainwater samples for Scripps Institute of Oceanography were collected.
- 3) A total of 36 salmon were caught in the fishing programme.

En route from station P stations 12 through 1 were occupied and STD casts made to 1500 meters or near bottom. At stations 9 and 4 sampling was continued with water bottles to 3500 and 2400 meters respectively. Surface salinity, nitrate and phosphate samples were collected at these stations. Mechanical or XBT casts were made at all line P hydro and BT stations.

The STD was partially operational only during the last few days on station and on line P inbound. Salinity data from depths below 200 meters was of such low quality that it has not been published. The only comparable STD and bottle casts were two days apart. The differences between these profiles are shown, but no correction has been applied to the STD traces.

Data was processed by Messrs. D. Healey, P. Vandergugten, W. Hansen, C de Jong, D. Smith, and E. Luscumbe, and assembled and edited for publication by Mr. K. Abbott-Smith.

Observational Procedures

Temperatures at depth were measured by deep-sea reversing thermometers of German (Richter and Wiese) or Japanese (Yoshino Keiki Co.) manufacture. Two protected thermometers were used on all Nansen bottles, and one unprotected thermometer was used on each bottle at depths of 300 m

or greater. The accuracy of protected reversing thermometers is believed to be $\pm 0.02^\circ\text{C}$.

Surface water temperatures were measured from a bucket sample using a deck thermometer of $\pm 0.1^\circ\text{C}$ accuracy.

Salinity determinations were made aboard ship with either an Auto-Lab Model 601 Mark III inductive salinometer or a Hytech Model 6220 lab salinometer. Accuracy using duplicate determinations is estimated to be ± 0.003 ppt.

Depth determinations were made using the "depth difference" method described in the U.S.N. Hydrographic Office Publication No. 607 (1955). Depth estimates have an approximate accuracy of ± 5 m for depths less than 1000 m, and $\pm 0.5\%$ of depth for depths greater than 1000 m.

The dissolved oxygen analyses were done in the shipboard laboratory by a modified Winkler method (Carpenter, 1965).

Line P engine intake continuous temperatures on both ships were recorded by a Honeywell Model 15303836 Recorder. The temperature probe is at a depth of approximately 3 meters below the sea surface and the instrument accuracy is believed to be $\pm .1^\circ\text{C}$.

CCGS QUADRA is equipped with a Bissett Berman Model 6600-T salinograph-thermograph which is used, on line P, for continuous recording of surface temperatures and salinities from the ships seawater loop. The temperature probe is mounted at the seawater loop intake (approximately 3 meters below the surface) and the salinity probe and recorder is situated in the dry lab. The accuracy of this instrument is believed to be $\pm .1^\circ\text{C}$ for temperature and $\pm .1$ ppt for salinity.

Computations

All hydrographic data were processed with the aid of an IBM 360 computer. Reversing thermometer temperature corrections, thermometric depth calculations, and accepted depth from the "depth difference" method were computed. Extraneous thermometric depths caused by thermometer malfunctions are automatically edited and replaced. A Calcomp 565 Offline Plotter was used to plot temperature-salinity and temperature-oxygen diagrams, as well as plots of temperature, salinity and dissolved oxygen vs \log_{10} depth. These plots were used to check the data for errors.

Missing hydrographic data were obtained using a weighted parabolas interpolation method (Reiniger and Ross, 1968). These data are indicated with an asterisk in this data record.

Data values that we suspect but are included in this data record are indicated with a plus. These data have been removed from punch card and magnetic tape records.

Analog records from the salinity-temperature-pressure instrument have been hand digitized, then replotted using the Calcomp Plotter.

Digitization was continued until original and computer plotted traces were coincident. Temperature and salinity values were listed at standard pressures; integrals (depths, geopotential anomaly, and potential energy anomaly) were computed from the entire array of digitized data.

The headings for the data listings are explained as follows:

PRESS	is pressure (decibars)
TEMP	is temperature (degrees Celsius)
SAL	is salinity (parts per thousand)
DEPTH	is reported in meters
SIGMA-T	is specific gravity anomaly
SVA	is specific volume anomaly
THETA	is potential temperature (degrees Celsius)
SVA (THETA)	is potential specific volume anomaly
DELTA D	is geopotential anomaly (J/kg)
POT EN	is potential energy in units of 10^8 ergs/cm ²
OXY	is the concentration of dissolved oxygen expressed in milliliters per liter
	" " "
V-B PERIOD	is the Vaisala-Brunt period in minutes

Summary of Hydrographic Data

The data are graphically summarized as follows:

Composite plots of temperature vs \log_{10} depth (Fig. 4, P-72-1), (Fig. 11, P-72-2) and (Figs. 17, 18, P-72-3).

Composite plots of salinity vs \log_{10} depth (Fig. 5, P-72-1), (Fig. 12, P-72-2) and (Figs. 19, 20, P-72-3).

Composite plots of oxygen vs \log_{10} depth (Fig. 6, P-72-1), (Fig. 13, P-72-2) and (Figs. 21, 22, P-72-3).

REFERENCES

- Carpenter, J.H. 1965. The Chesapeake Bay Institute Technique for the Winkler Dissolved Oxygen Method. *Limnol. & Oceanogr.*, 10: 141-143.
- Collins, C.A., R.L. Tripe, D.A. Healey, and J. Joergensen, 1969. The Time Distribution of Serial Oceanographic Data from the Ocean Station P Programme. Fisheries Research Board of Canada, Technical Report No. 106.
- Reiniger, R.F. and C.K. Ross, 1968. A Method of Interpolation with Application to Oceanographic Data. *Deep Sea Re.* 15: 185-193.
- U.S.N. Hydrographic Office, 1955. Instruction Manual for Oceanographic Observations, Publication No. 607.

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- Figure 26 T-S plot of surface temperature and salinity observations on Line P (asterisks) and at Station P (pluses) during Cruise P-72-3.

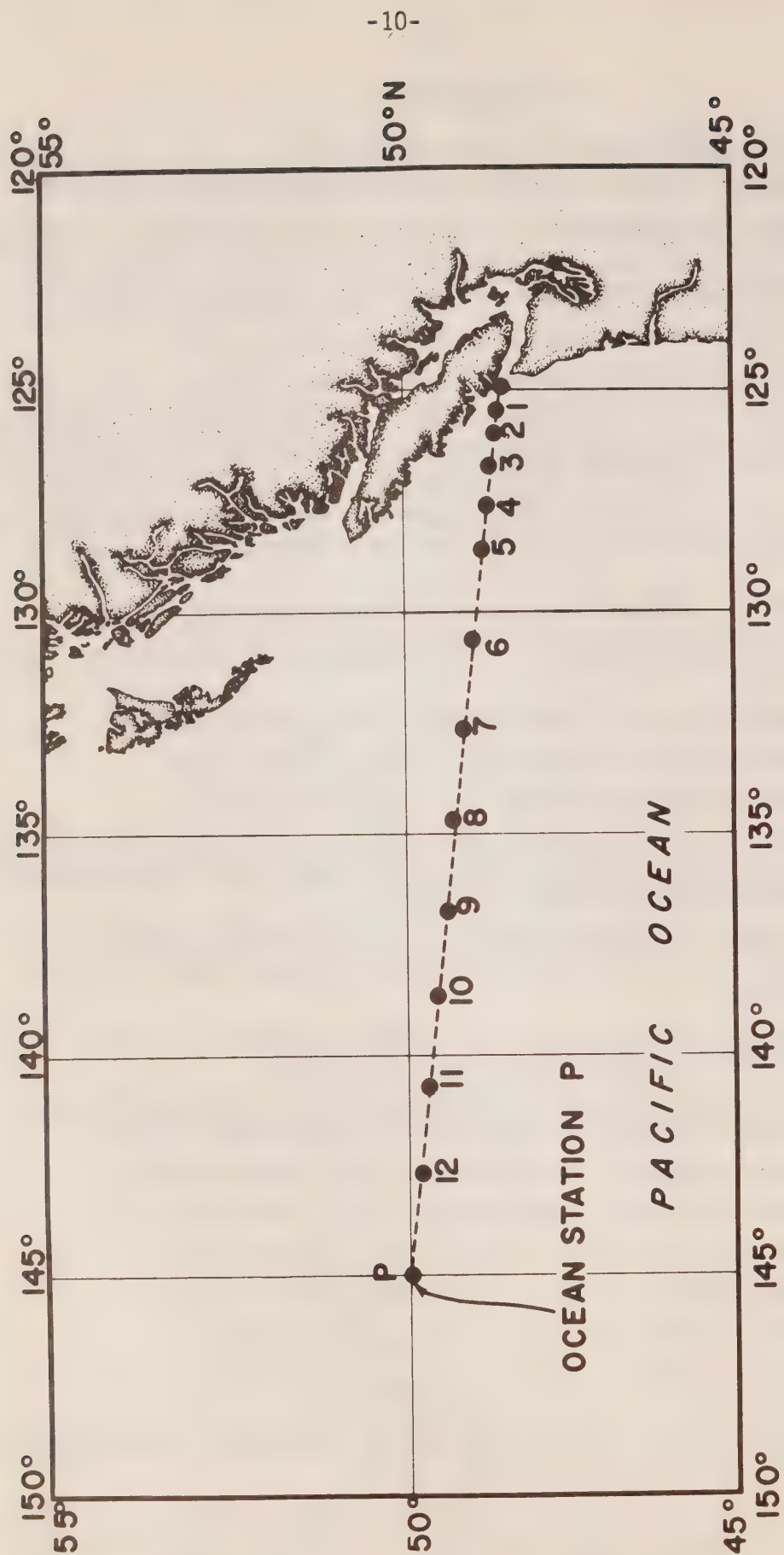


Fig. 1 Chart showing Line P station positions.

OCEANOGRAPHIC DATA OBTAINED ON CRUISE P-72-1

(CODC REFERENCE NO. 15-72-001)

SALINITY DIFFERENCE, BOTTLE - S.T.D. ‰

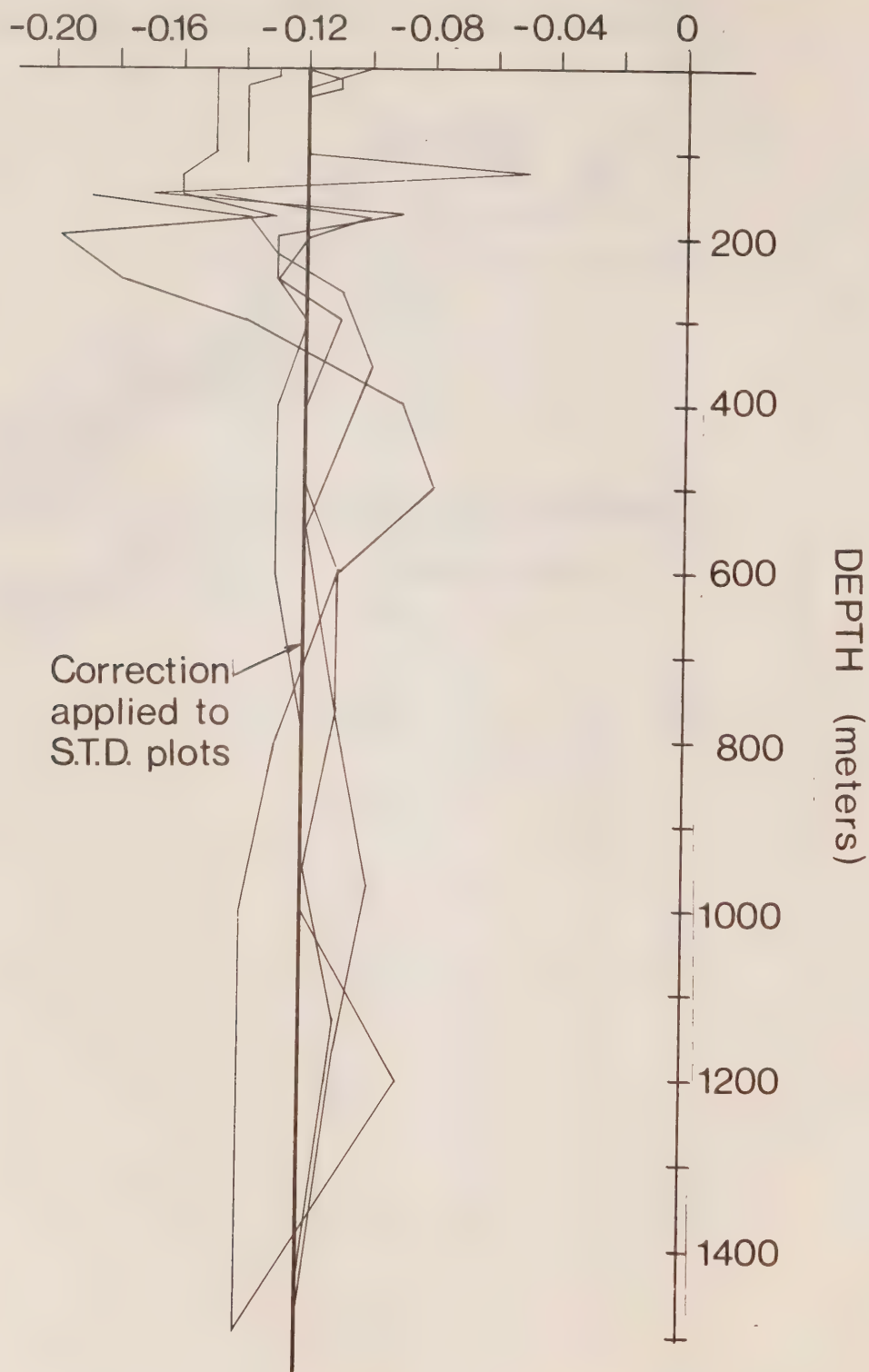


Fig. 2 Bottle - STD salinity value difference profiles P-72-1.

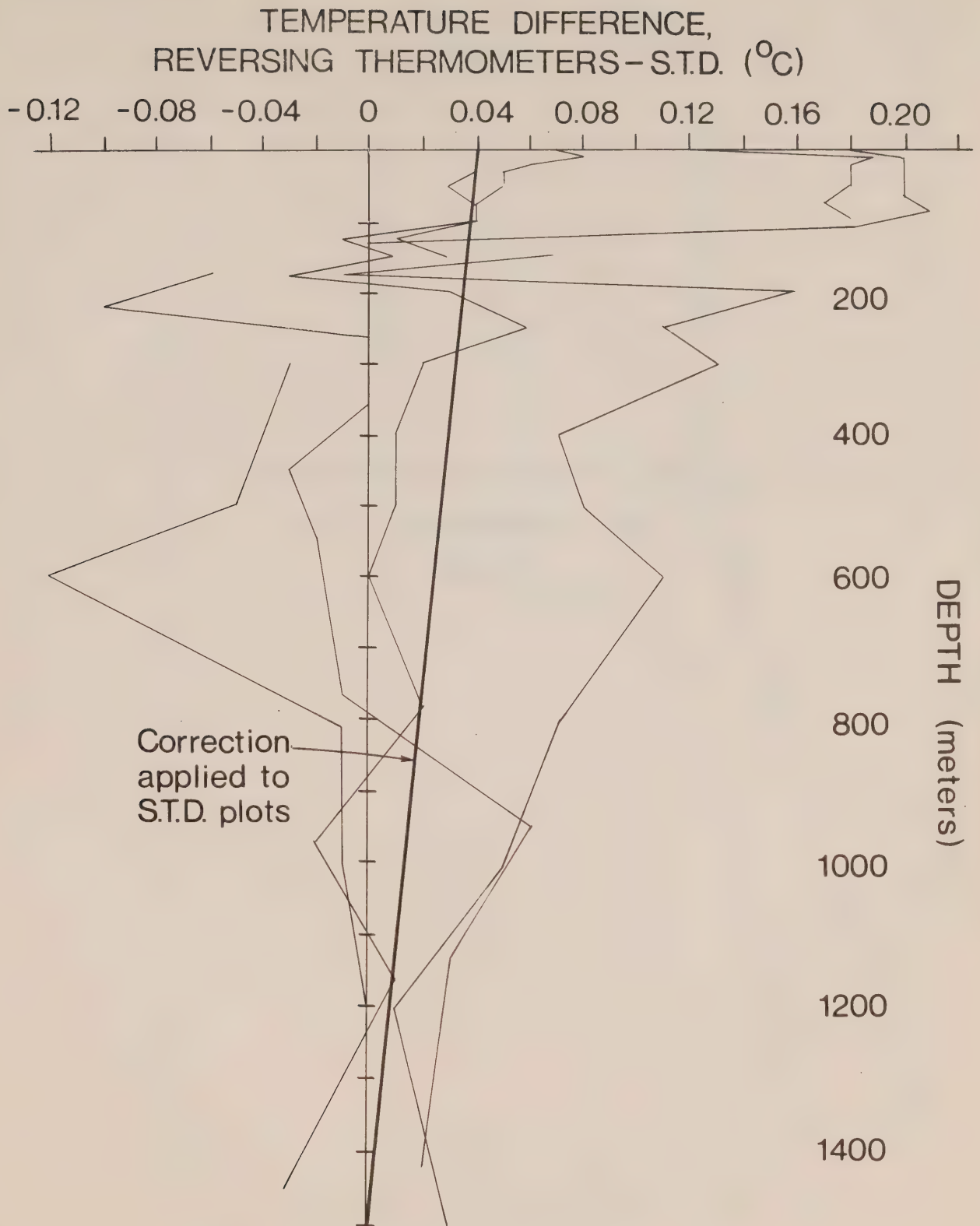


Fig. 3 Reversing thermometer - STD temperature difference profiles P-72-1.

COMPOSITE PLOTS OF TEMPERATURE, SALINITY
AND DISSOLVED OXYGEN VS DEPTH
(P-72-1)

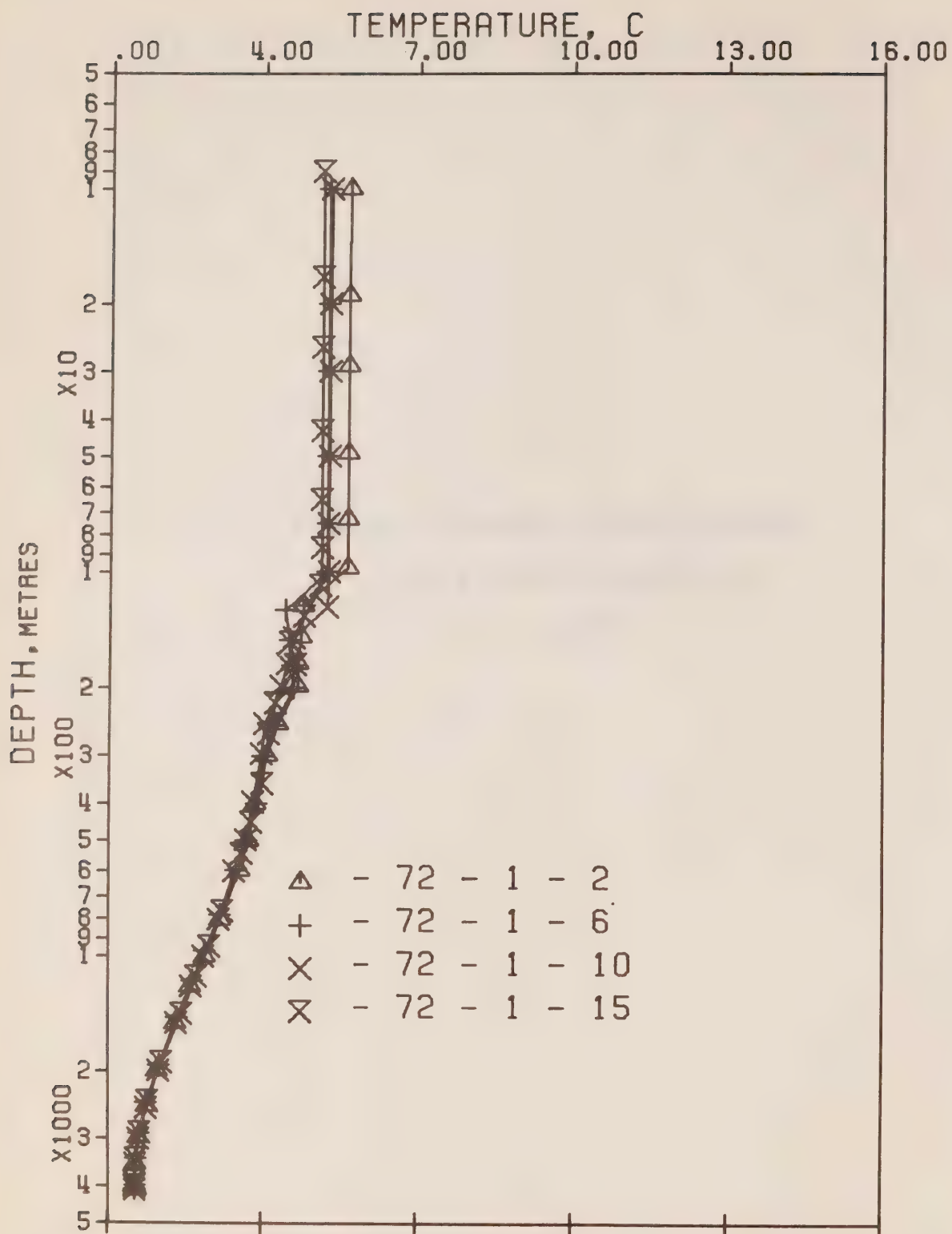


Fig. 4 Composite plot of temperature vs \log_{10} depth P-72-1.

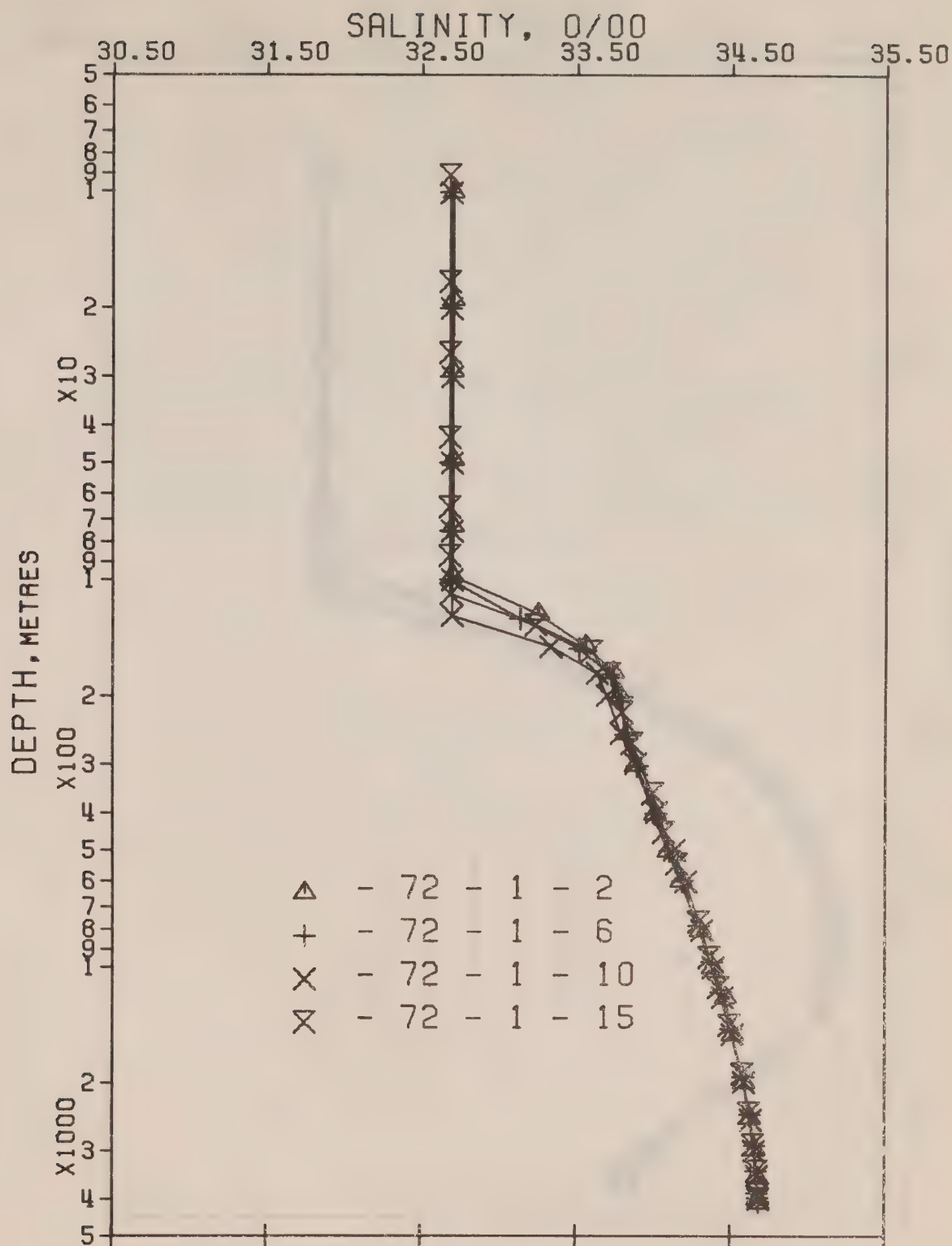


Fig. 5 Composite plot of salinity vs \log_{10} depth P-72-1.

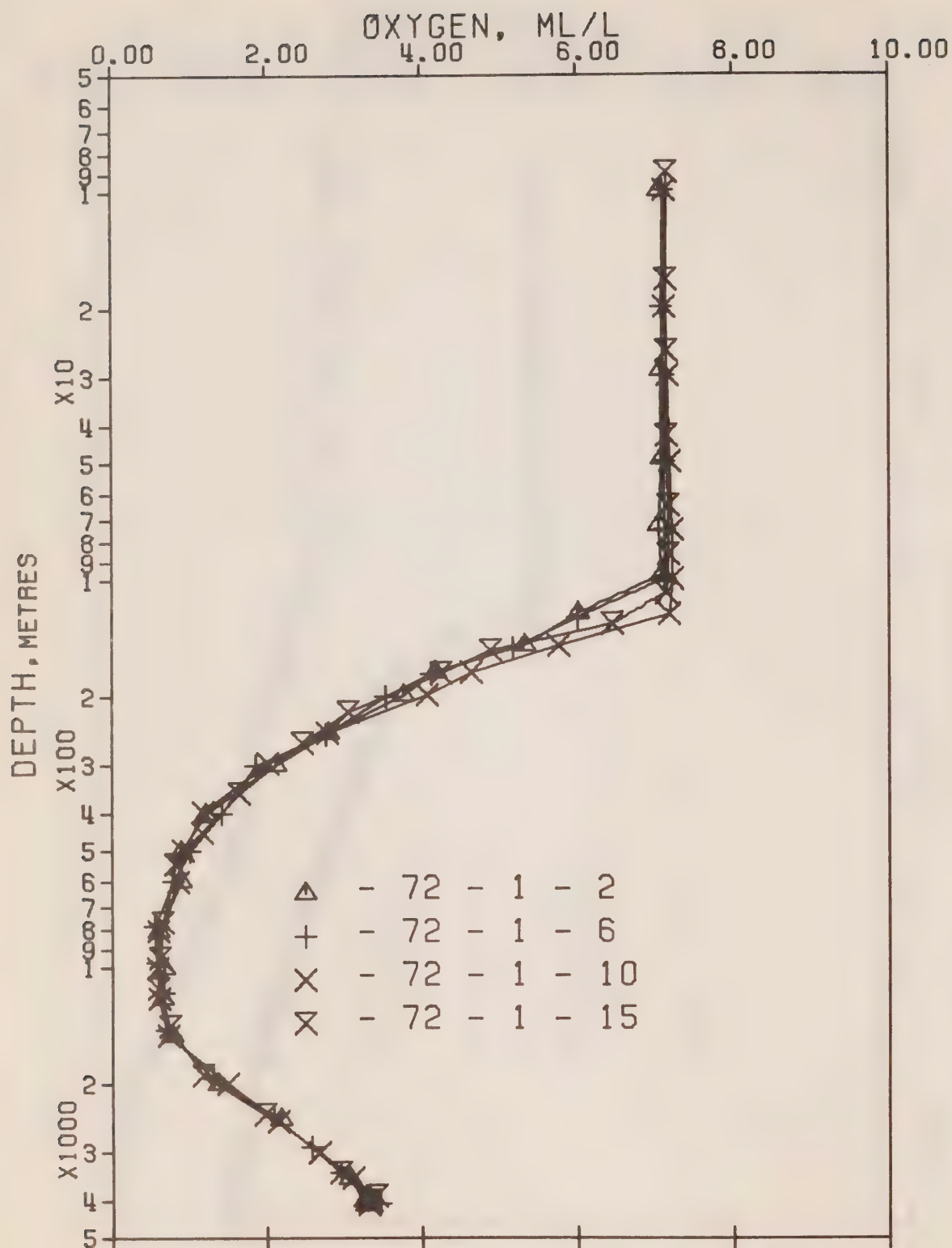
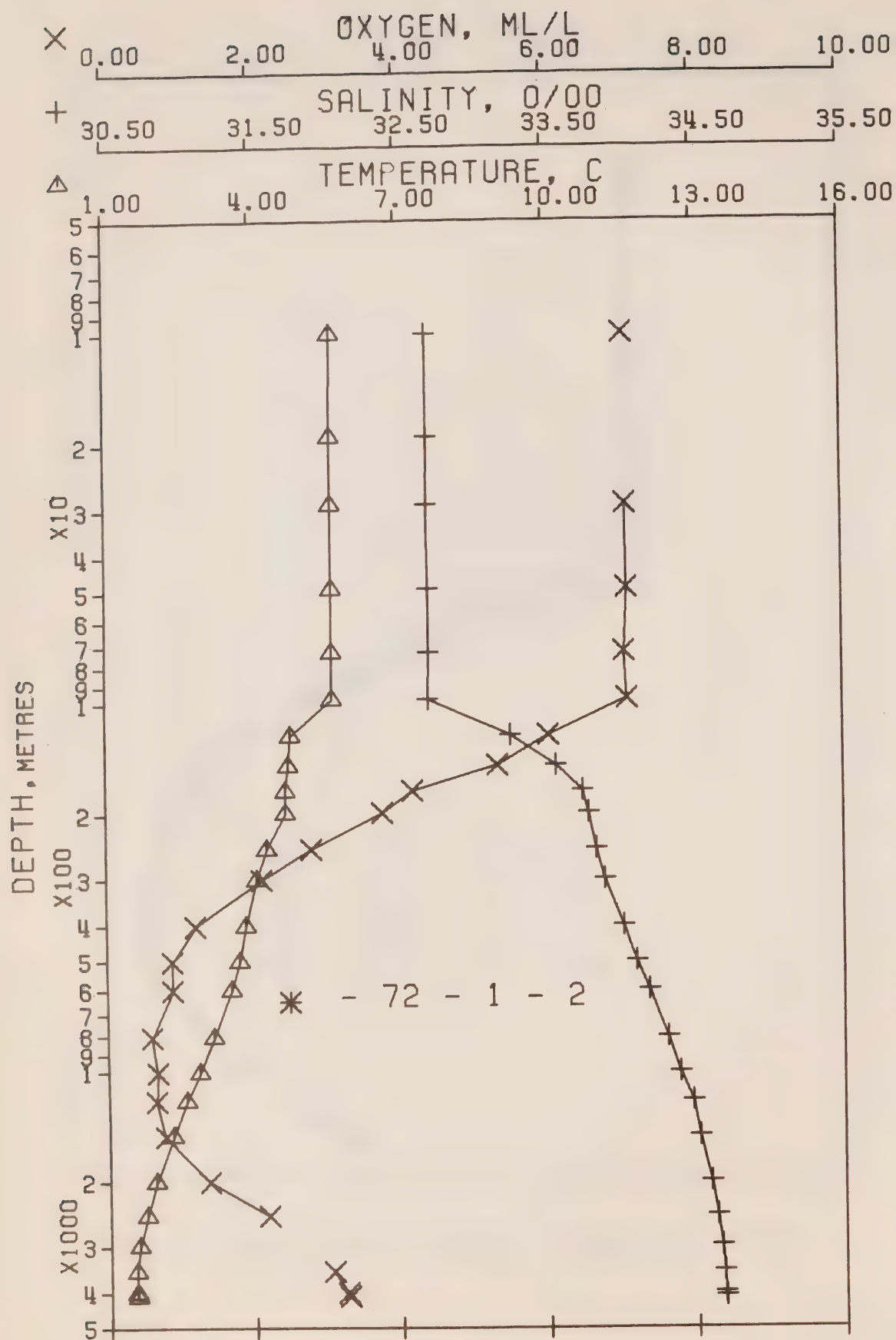


Fig. 6 Composite plot of oxygen vs \log_{10} depth P-72-1.

RESULTS OF BOTTLE CASTS

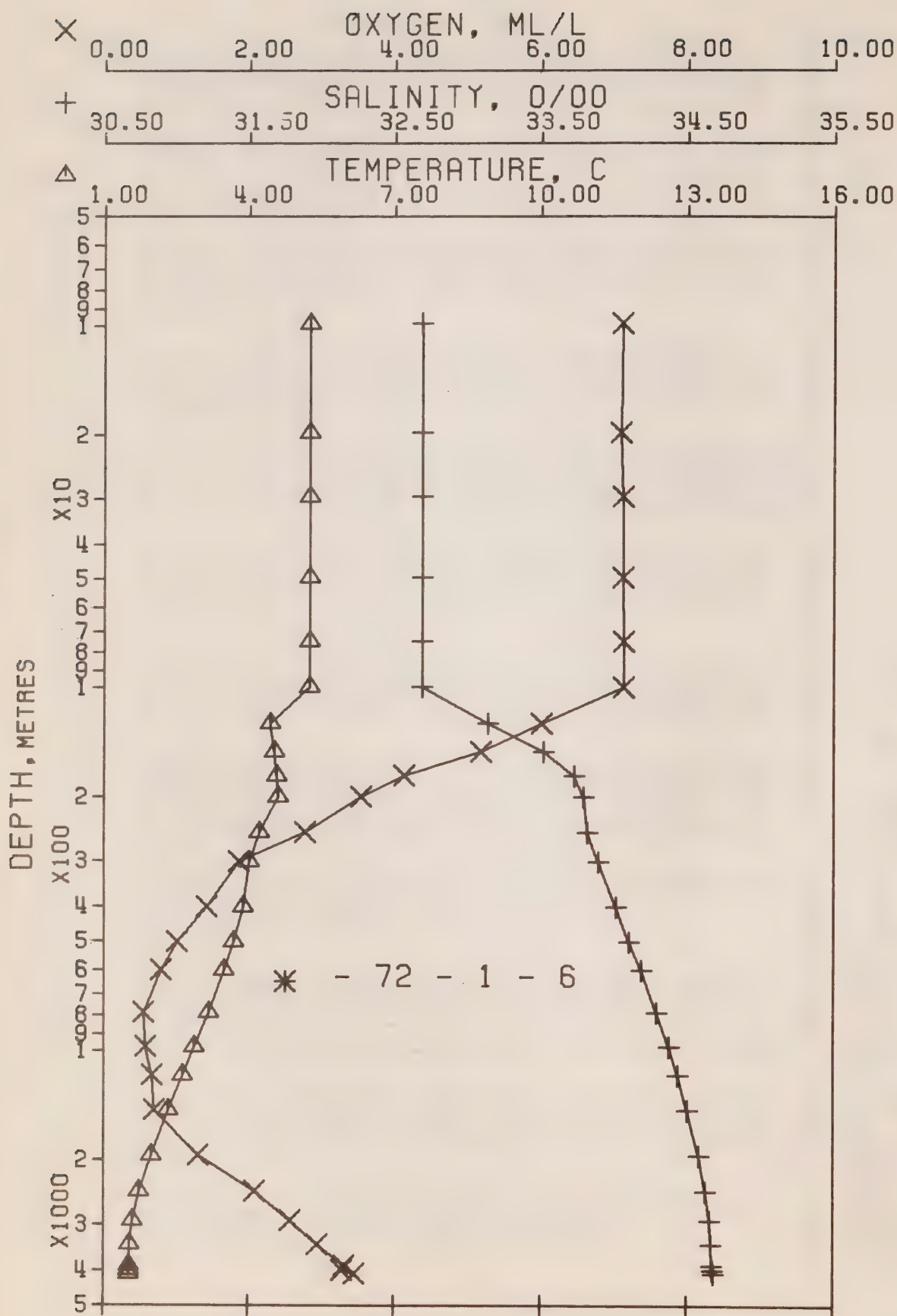
(P-72-1)



OFFSHORE OCEANOGRAPHY GROUP

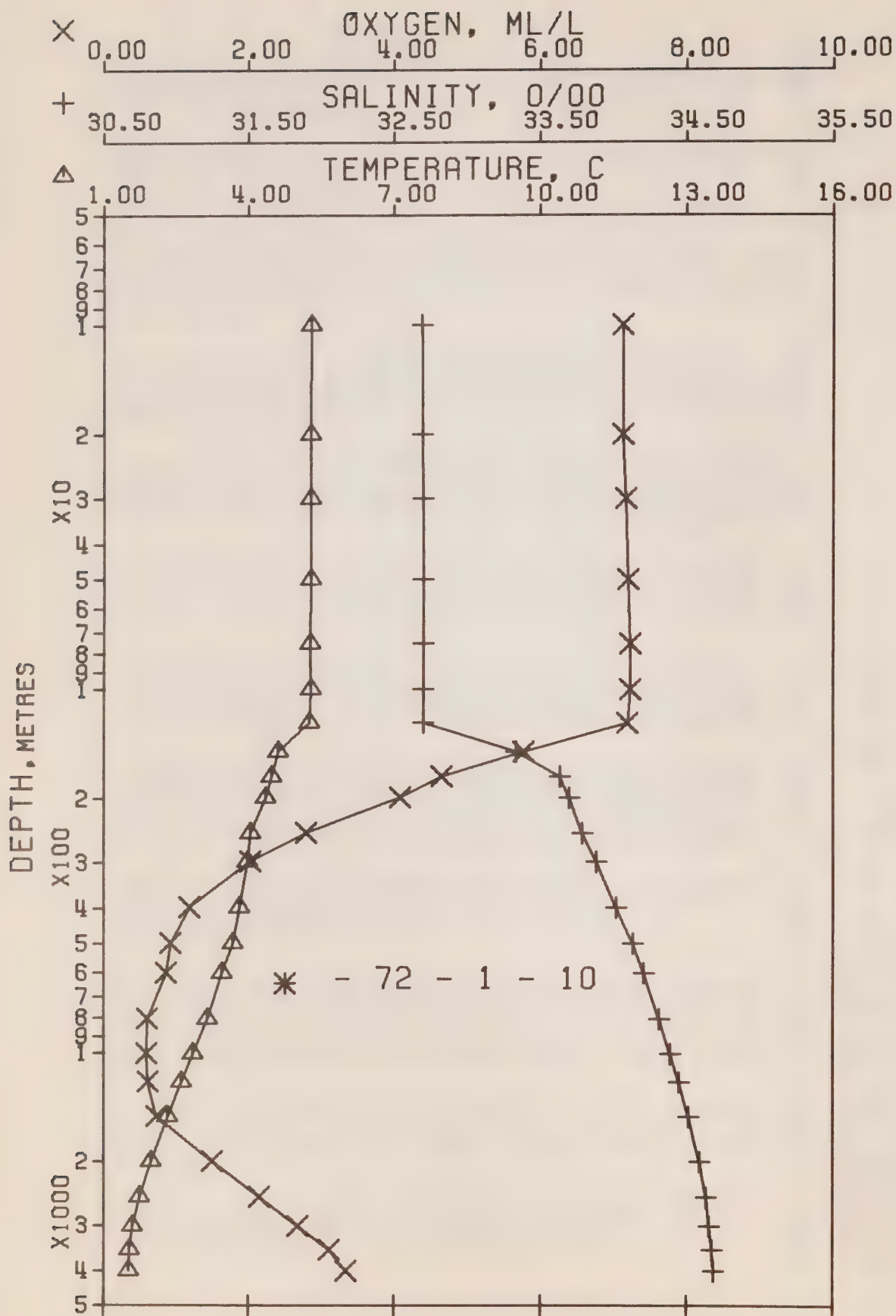
REFERENCE NO. 72- 1- 2 DATE 18/ 1/72
 POSITION 50- 0.0 N, 145- 0.0 W GMT 6.4
 HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	5.64	32.703	0	25.808	220.1	5.64	219.9	0.0	0.0	7.08	1471.
10	5.65	32.706	10	25.809	220.1	5.65	219.8	0.22	0.01	7.06	1471.
19	5.64	32.706	19	25.810	220.0	5.64	219.6	0.42	0.04	0.0	1471.
29	5.64	32.702	29	25.807	220.5	5.64	219.9	0.64	0.10	7.08	1471.
49	5.64	32.705	49	25.810	220.4	5.64	219.7	1.09	0.27	7.09	1471.
73	5.63	32.705	73	25.811	220.6	5.62	219.5	1.62	0.61	7.05	1472.
99	5.64	32.702	98	25.807	221.2	5.63	219.9	2.18	1.10	7.09	1472.
124	4.78	33.253	123	26.341	170.6	4.77	169.2	2.68	1.66	6.02	1470.
149	4.73	33.561	148	26.590	147.3	4.72	145.4	3.07	2.21	5.33	1470.
174	4.67	33.738	173	26.737	133.6	4.66	131.5	3.43	2.79	4.18	1471.
200	4.68	33.778	199	26.768	131.0	4.66	128.6	3.77	3.45	3.77	1471.
252	4.28	33.828	250	26.850	123.4	4.26	120.7	4.42	4.96	2.80	1471.
303	4.08	33.886	301	26.917	117.4	4.06	114.3	5.04	6.71	2.12	1471.
406	3.85	34.008	403	27.038	106.6	3.82	102.8	6.19	10.86	1.21	1472.
507	3.71	34.097	503	27.122	99.4	3.67	94.8	7.23	15.70	0.89	1473.
605	3.55	34.180	600	27.204	92.2	3.51	87.0	8.17	21.02	0.89	1474.
814	3.18	34.306	807	27.340	80.4	3.12	74.0	9.96	34.00	0.60	1476.
1018	2.88	34.385	1008	27.430	72.6	2.81	65.4	11.52	48.52	0.67	1478.
1219	2.59	34.470	1206	27.523	64.2	2.51	56.5	12.88	64.08	0.65	1480.
1519	2.31	34.514	1502	27.582	59.4	2.21	50.8	14.72	89.80	0.77	1484.
2024	1.95	34.591	1999	27.673	51.7	1.81	41.9	17.52	140.14	1.38	1491.
2511	1.75	34.630	2477	27.719	48.1	1.57	37.3	19.93	196.03	2.18	1498.
3032	1.59	34.659	2988	27.754	45.5	1.37	33.7	22.36	254.71	0.0	1506.
3557	1.53	34.676	3501	27.772	44.9	1.25	31.7	24.73	344.07	3.06	1515.
4073	1.52	34.682	4004	27.778	45.7	1.19	30.8	27.06	434.66	3.25	1524.
4174	1.54	34.687	4103	27.780	46.0	1.20	30.5	27.52	454.26	3.27	1526.



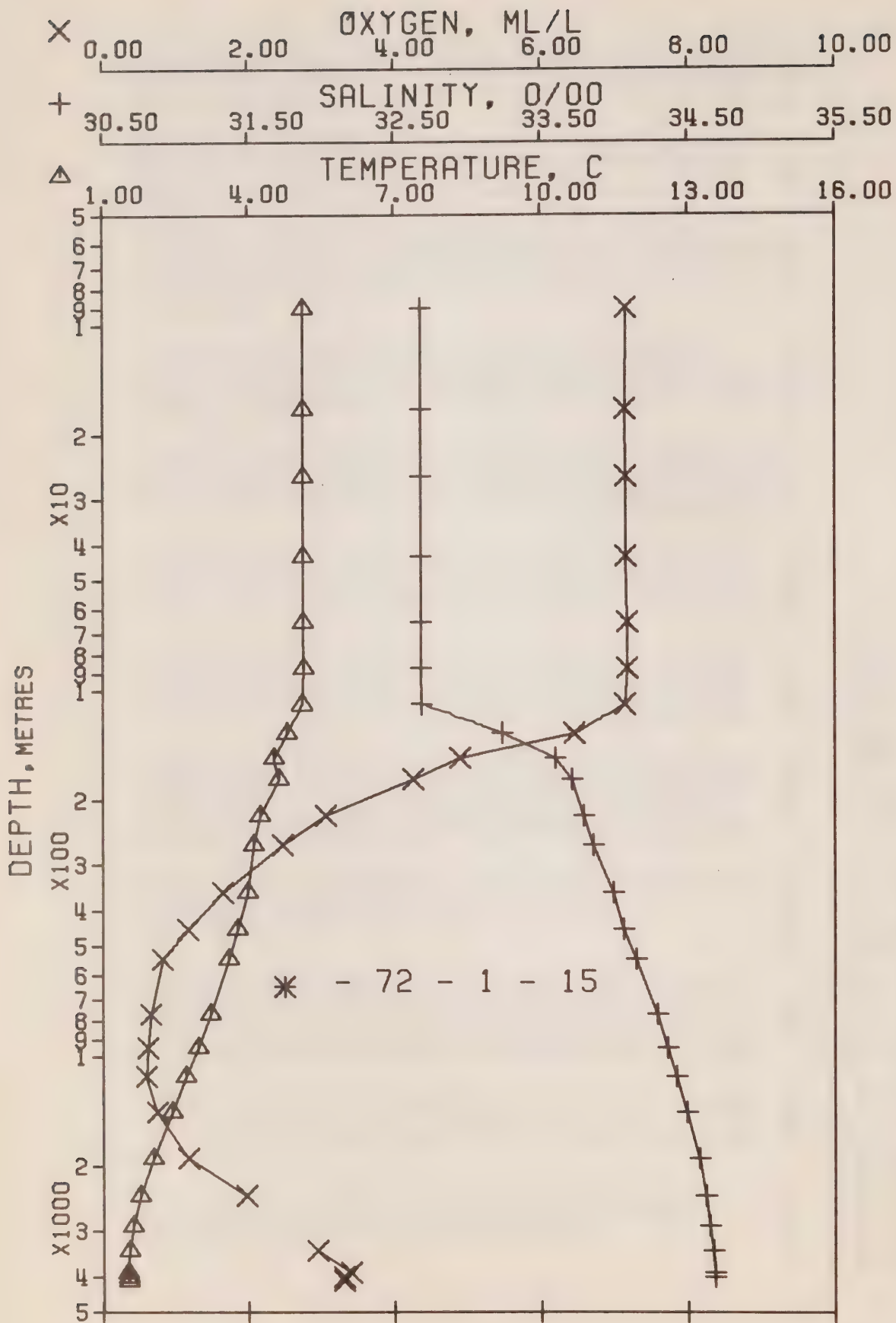
OFFSHORE OCEANOGRAPHY GROUP
 REFERENCE NO. 72- 1- 6 DATE 24/ 1/72
 POSITION 50- 0.0 N. 145- 0.0 W GMT 19.3
 HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	5.25	32.696	0	25.848	216.3	5.25	216.1	0.0	0.0	7.14	1469.
10	5.25	32.689	10	25.842	216.9	5.25	216.6	0.22	0.01	7.11	1469.
20	5.25	32.688	20	25.841	217.1	5.25	216.7	0.44	0.04	7.09	1469.
30	5.25	32.690	30	25.843	217.0	5.25	216.5	0.65	0.10	7.12	1469.
50	5.24	32.689	50	25.843	217.2	5.24	216.4	1.09	0.28	7.12	1470.
75	5.24	32.689	75	25.843	217.5	5.23	216.4	1.64	0.63	7.13	1470.
101	5.24	32.691	100	25.845	217.5	5.23	216.3	2.19	1.13	7.13	1471.
127	4.44	33.140	126	26.288	175.5	4.43	174.1	2.71	1.73	6.01	1468.
152	4.53	33.520	151	26.580	148.2	4.52	146.4	3.12	2.30	5.18	1470.
177	4.57	33.731	176	26.742	133.0	4.56	131.0	3.47	2.89	4.13	1470.
202	4.60	33.793	201	26.788	129.0	4.58	126.6	3.79	3.53	3.54	1471.
254	4.21	33.821	252	26.852	123.2	4.19	120.6	4.44	5.04	2.77	1470.
304	4.00	33.896	302	26.933	115.8	3.98	112.8	5.05	6.75	1.86	1470.
406	3.88	34.014	403	27.039	106.6	3.85	102.7	6.17	10.84	1.42	1472.
507	3.69	34.105	503	27.131	98.6	3.65	94.0	7.21	15.65	1.01	1473.
607	3.49	34.189	602	27.217	90.9	3.45	85.7	8.15	21.03	0.79	1474.
792	3.18	34.295	785	27.331	81.0	3.13	74.9	9.74	32.32	0.55	1475.
983	2.88	34.379	974	27.425	72.8	2.81	65.9	11.20	45.58	0.58	1477.
1177	2.64	34.438	1165	27.493	67.0	2.56	59.3	12.55	60.43	0.67	1480.
1469	2.34	34.505	1453	27.572	60.2	2.24	51.7	14.40	85.36	0.70	1483.
1961	1.99	34.583	1937	27.663	52.6	1.86	42.9	17.15	133.40	1.31	1490.
2457	1.74	34.628	2424	27.718	48.0	1.57	37.4	19.62	189.17	2.09	1497.
2956	1.60	34.658	2913	27.753	45.5	1.38	33.9	21.94	253.14	2.58	1505.
3455	1.54	34.668	3401	27.765	45.4	1.27	32.5	24.20	327.03	2.95	1513.
3952	1.53	34.677	3886	27.773	45.9	1.21	31.4	26.47	412.66	3.32	1522.
4050	1.53	34.680	3982	27.776	46.0	1.20	31.0	26.92	431.13	3.29	1524.
4150	1.52	34.686	4079	27.781	45.7	1.18	30.5	27.38	450.22	3.46	1525.



OFFSHORE OCEANOGRAPHY GROUP
 REFERENCE NO. 72- 1- 10 DATE 30/ 1/72
 POSITION 50- 0.0 N. 145- 0.0 W GMT 19.6
 HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	5.28	32.697	0	25.845	216.6	5.28	216.3	0.0	0.0	7.12	1469.
10	5.29	32.696	10	25.843	216.8	5.29	216.5	0.22	0.01	7.13	1469.
20	5.28	32.697	20	25.845	216.8	5.28	216.3	0.44	0.04	7.13	1469.
30	5.27	32.702	30	25.850	216.4	5.27	215.8	0.65	0.10	7.17	1470.
50	5.27	32.699	50	25.848	216.8	5.27	216.1	1.09	0.28	7.20	1470.
75	5.26	32.699	75	25.849	216.9	5.25	215.9	1.64	0.63	7.23	1470.
101	5.27	32.700	100	25.849	217.2	5.26	215.9	2.18	1.12	7.23	1471.
125	5.24	32.699	124	25.851	217.1	5.23	215.6	2.71	1.73	7.19	1471.
150	4.60	33.333	149	26.424	162.9	4.59	161.3	3.20	2.41	5.77	1470.
175	4.47	33.636	174	26.678	139.1	4.46	137.1	3.57	3.02	4.65	1470.
200	4.34	33.702	199	26.744	133.0	4.33	130.9	3.91	3.68	4.08	1470.
251	4.03	33.789	249	26.845	123.7	4.01	121.2	4.56	5.16	2.79	1469.
300	3.97	33.887	298	26.929	116.1	3.95	113.2	5.15	6.82	2.02	1470.
402	3.81	34.018	399	27.050	105.5	3.78	101.8	6.27	10.85	1.18	1471.
504	3.67	34.135	500	27.157	96.1	3.63	91.5	7.30	15.59	0.92	1473.
608	3.45	34.209	603	27.237	89.1	3.41	83.9	8.26	21.03	0.86	1473.
816	3.14	34.313	809	27.349	79.4	3.08	73.2	10.00	33.71	0.60	1476.
1015	2.84	34.390	1005	27.438	71.7	2.77	64.7	11.50	47.67	0.59	1478.
1215	2.60	34.450	1203	27.506	65.8	2.52	58.1	12.87	63.31	0.61	1480.
1518	2.32	34.515	1501	27.582	59.5	2.22	50.8	14.76	89.58	0.73	1484.
2027	1.97	34.591	2002	27.671	51.9	1.83	42.1	17.57	140.37	1.50	1491.
2538	1.73	34.633	2504	27.723	47.8	1.55	37.0	20.10	199.27	2.15	1499.
3052	1.58	34.655	3007	27.752	45.8	1.35	33.9	22.49	267.42	2.68	1507.
3563	1.52	34.677	3507	27.774	44.7	1.24	31.6	24.80	345.11	3.11	1515.
4072	1.51	34.684	4003	27.780	45.5	1.18	30.6	27.08	434.15	3.34	1524.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 1- 15 DATE 18/ 2/72

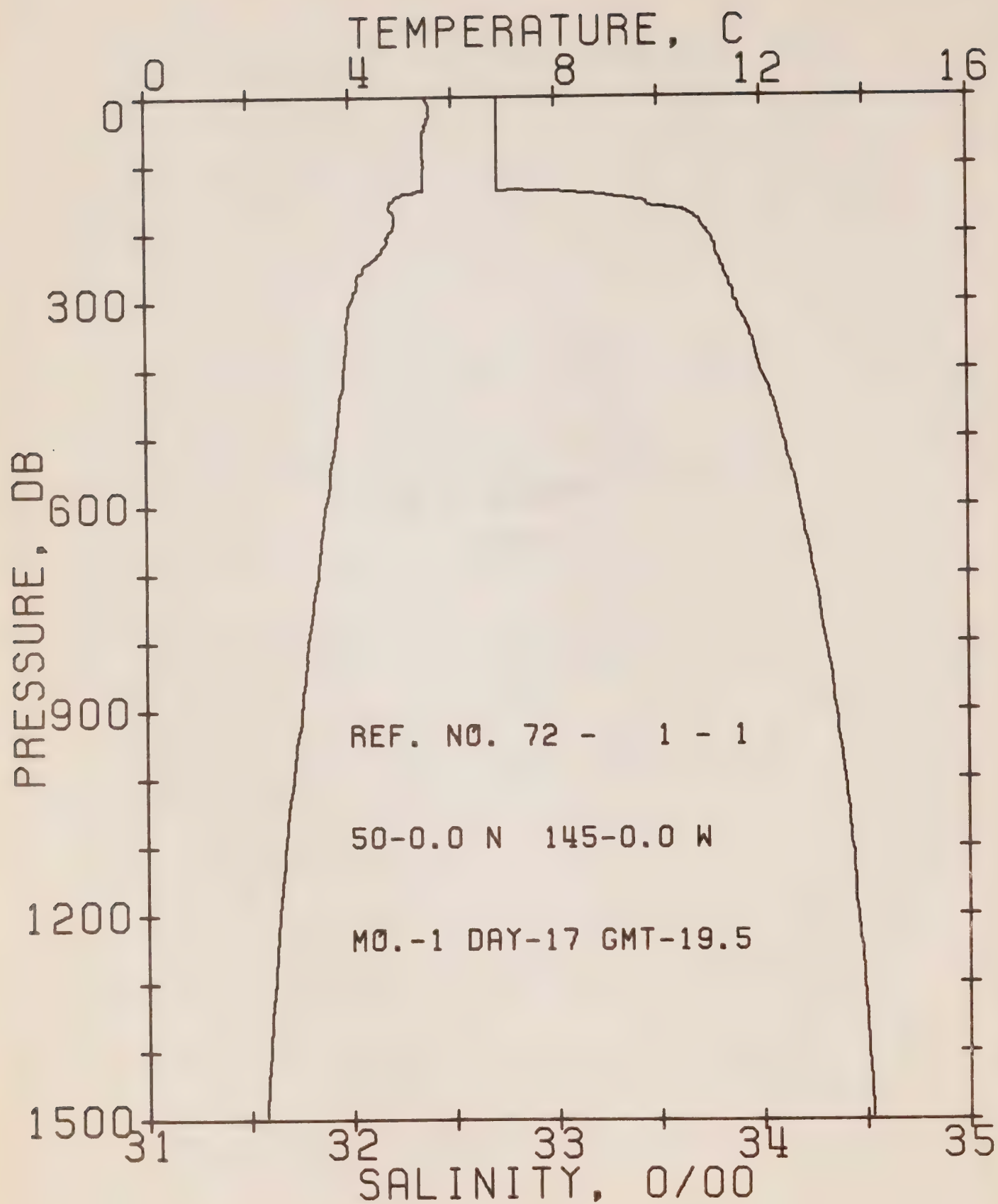
POSITION 50- 0.0 N. 145- 0.0 W GMT 18.3

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	5.10	32.688	0	25.858	215.3	5.10	215.1	0.0	0.0	7.16	1468.
9	5.12	32.687	9	25.855	215.6	5.12	215.3	0.20	0.01	7.16	1469.
17	5.12	32.685	17	25.854	215.9	5.12	215.5	0.37	0.03	7.15	1469.
26	5.12	32.685	26	25.854	216.0	5.12	215.5	0.56	0.08	7.16	1469.
43	5.12	32.685	43	25.854	216.2	5.12	215.4	0.93	0.21	7.16	1469.
65	5.12	32.684	65	25.853	216.4	5.11	215.5	1.41	0.47	7.18	1469.
88	5.14	32.685	87	25.852	216.7	5.13	215.6	1.89	0.85	7.18	1470.
110	5.11	32.689	109	25.858	216.3	5.10	215.0	2.38	1.34	7.15	1470.
132	4.79	33.238	131	26.328	172.0	4.78	170.3	2.81	1.87	6.46	1470.
154	4.52	33.601	153	26.645	142.0	4.51	140.3	3.16	2.37	4.90	1470.
176	4.63	33.716	175	26.724	134.8	4.62	132.8	3.46	2.88	4.26	1471.
222	4.24	33.795	220	26.828	125.2	4.22	122.8	4.05	4.07	3.06	1470.
267	4.10	33.862	265	26.896	119.1	4.08	116.4	4.60	5.45	2.47	1470.
360	3.98	33.993	357	27.013	108.8	3.95	105.3	5.65	8.81	1.65	1471.
453	3.77	34.066	449	27.092	101.9	3.74	97.7	6.63	12.86	1.17	1472.
548	3.60	34.148	543	27.174	94.7	3.56	89.9	7.56	17.61	0.82	1473.
774	3.22	34.293	767	27.326	81.5	3.17	75.4	9.54	30.95	0.66	1475.
959	2.96	34.364	950	27.406	74.6	2.89	67.7	10.98	43.68	0.62	1477.
1147	2.71	34.427	1135	27.479	68.4	2.63	60.7	12.32	58.03	0.60	1479.
1435	2.42	34.493	1419	27.556	61.8	2.32	53.2	14.19	82.57	0.75	1483.
1928	2.04	34.578	1905	27.655	53.4	1.91	43.6	17.01	130.90	1.18	1490.
2432	1.76	34.627	2400	27.716	48.2	1.59	37.7	19.54	187.29	1.98	1497.
2943	1.61	34.650	2901	27.746	46.2	1.39	34.6	21.94	253.07	0.0	1505.
3457	1.54	34.674	3403	27.770	45.0	1.27	32.0	24.28	329.16	2.95	1514.
3967	1.51	34.685	3901	27.781	45.1	1.19	30.6	26.56	415.65	3.41	1522.
4069	1.52	34.686	4000	27.781	45.5	1.19	30.5	27.02	434.50	3.31	1524.
4169	1.52	34.687*	4098	27.782	45.6	1.18	30.4	27.48	453.74	3.31	1526.

RESULTS OF STD CASTS

(P-72-1)



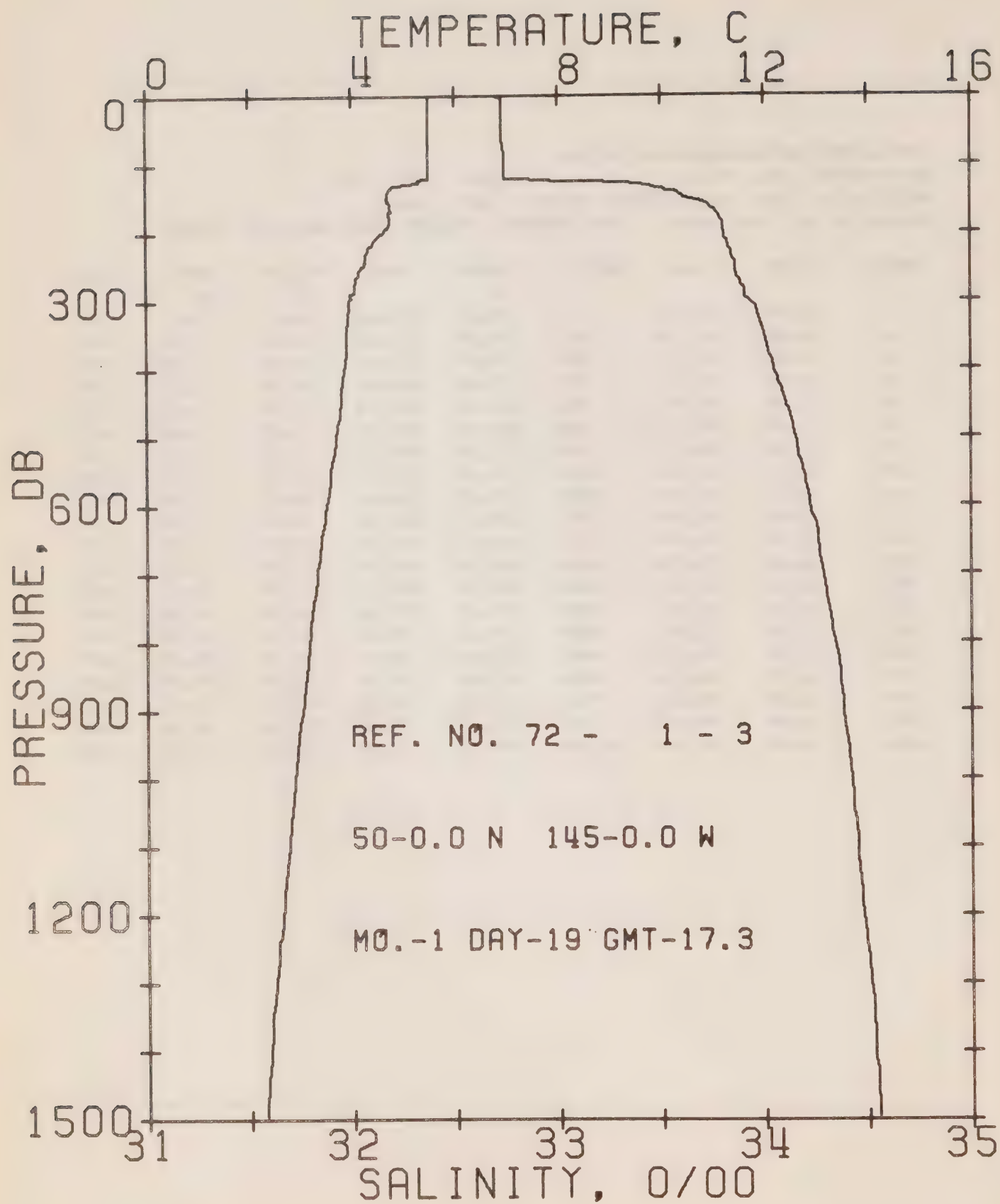
OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 1- 1 DATE 17/ 1/72

POSITION 50- 0.0N, 145- 0.0W GMT 19.5

RESULTS OF STP CAST 216 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.55	32.71	0	25.82	218.3	0.0	0.0	1470.
10	5.55	32.72	10	25.83	217.9	0.22	0.01	1470.
20	5.56	32.72	20	25.83	218.1	0.44	0.04	1471.
30	5.56	32.72	30	25.83	218.2	0.65	0.10	1471.
50	5.48	32.72	50	25.84	217.5	1.09	0.28	1471.
75	5.45	32.72	75	25.84	217.4	1.63	0.62	1471.
100	5.46	32.72	99	25.84	217.8	2.18	1.11	1471.
125	5.43	32.72	124	25.85	217.7	2.72	1.73	1472.
150	4.87	33.35	149	26.41	164.2	3.22	2.43	1471.
175	4.87	33.68	174	26.67	140.1	3.60	3.05	1472.
200	4.78	33.74	199	26.73	134.9	3.94	3.71	1472.
225	4.64	33.78	223	26.77	130.6	4.27	4.42	1472.
250	4.28	33.82	248	26.84	123.9	4.59	5.20	1471.
300	4.03	33.87	298	26.91	117.6	5.19	6.88	1470.
400	3.88	33.99	397	27.02	108.1	6.31	10.87	1472.
500	3.72	34.11	496	27.13	98.8	7.34	15.58	1473.
600	3.51	34.19	595	27.21	91.2	8.29	20.89	1474.
800	3.16	34.31	793	27.34	80.0	10.00	33.03	1475.
1000	2.85	34.40	990	27.44	71.2	11.50	46.81	1478.
1200	2.57	34.46	1188	27.52	64.8	12.85	61.93	1480.



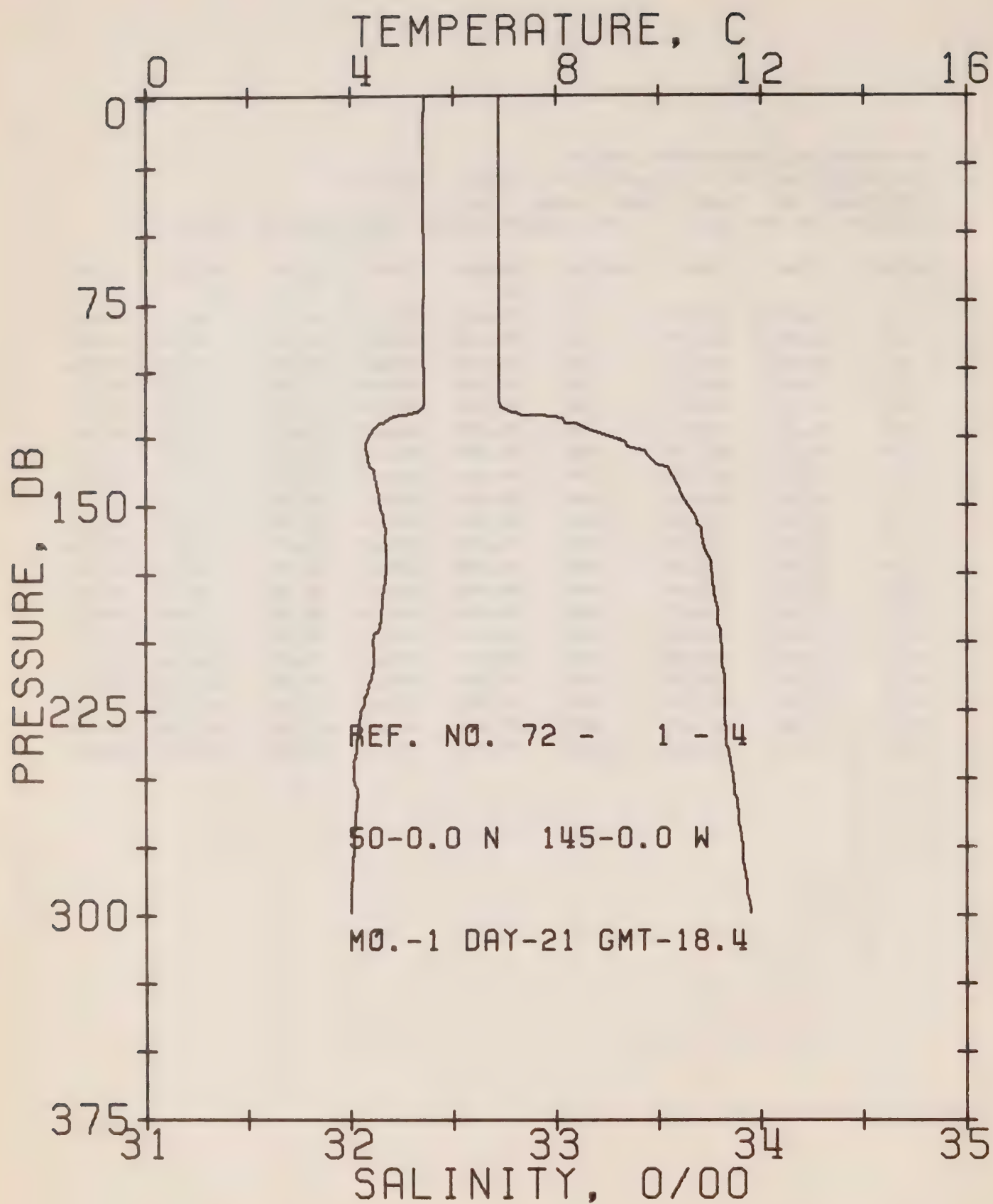
OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 1- 3 DATE 19/ 1/72

POSITION 50- 0.0N, 145- 0.0W GMT 17.3

RESULTS OF STP CAST 172 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.50	32.70	0	25.82	218.5	0.0	0.0	1470.
10	5.50	32.73	10	25.85	216.6	0.22	0.01	1470.
20	5.50	32.73	20	25.85	216.7	0.43	0.04	1470.
30	5.50	32.73	30	25.85	216.8	0.65	0.10	1471.
50	5.50	32.73	50	25.85	217.0	1.08	0.28	1471.
75	5.50	32.73	75	25.85	216.9	1.63	0.62	1471.
100	5.50	32.74	99	25.85	216.8	2.17	1.11	1472.
125	5.28	32.99	124	26.08	195.8	2.71	1.72	1472.
150	4.68	33.61	149	26.63	143.0	3.10	2.27	1470.
175	4.73	33.78	174	26.76	131.1	3.43	2.83	1471.
200	4.62	33.80	199	26.80	128.3	3.76	3.45	1471.
225	4.31	33.83	223	26.85	123.2	4.07	4.13	1470.
250	4.21	33.86	248	26.88	120.2	4.38	4.86	1470.
300	3.96	33.92	298	26.96	113.3	4.96	6.50	1470.
400	3.84	34.05	397	27.07	103.5	6.04	10.33	1471.
500	3.68	34.15	496	27.17	94.8	7.03	14.86	1473.
600	3.49	34.22	595	27.24	88.4	7.94	19.98	1473.
800	3.15	34.34	793	27.37	77.2	9.59	31.72	1475.
1000	2.86	34.42	990	27.46	69.8	11.06	45.13	1478.
1200	2.61	34.48	1188	27.53	63.9	12.39	60.09	1480.



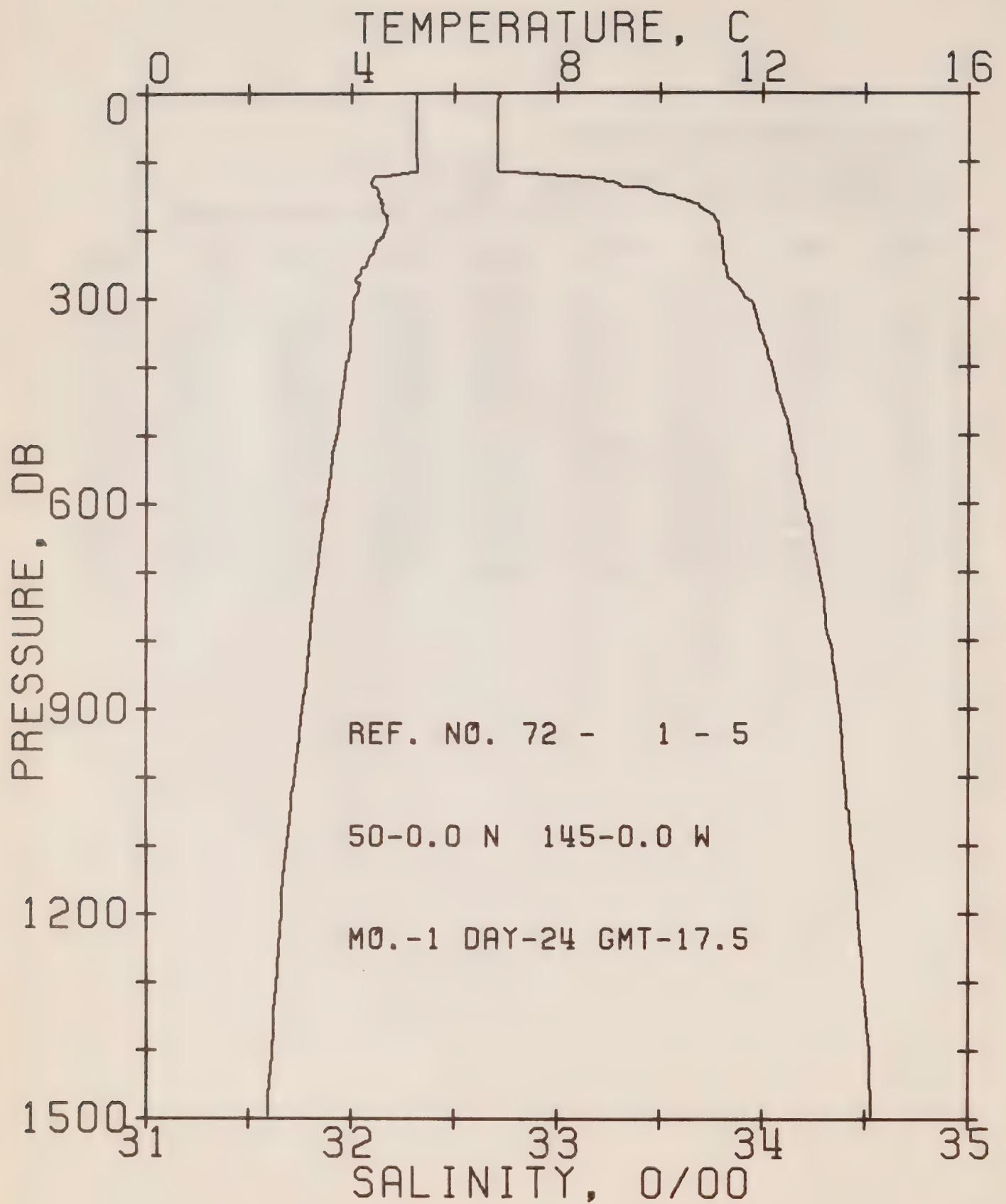
OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 1- 4 DATE 21/ 1/72

POSITION 50- 0.0N, 145- 0.0W GMT 18.4

RESULTS OF STP CAST 99 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.45	32.72	0	25.84	216.4	0.0	0.0	1470.
10	5.42	32.72	10	25.85	216.5	0.22	0.01	1470.
20	5.42	32.72	20	25.85	216.6	0.43	0.04	1470.
30	5.42	32.72	30	25.85	216.6	0.65	0.10	1470.
50	5.42	32.72	50	25.85	216.9	1.08	0.28	1471.
75	5.42	32.72	75	25.85	217.1	1.63	0.62	1471.
100	5.43	32.72	99	25.85	217.4	2.17	1.11	1471.
125	4.34	33.27	124	26.40	164.8	2.68	1.69	1468.
150	4.60	33.64	149	26.67	139.9	3.05	2.21	1470.
175	4.67	33.75	174	26.75	132.2	3.39	2.77	1471.
200	4.44	33.80	199	26.81	126.5	3.71	3.38	1470.
225	4.19	33.82	223	26.85	122.8	4.02	4.06	1470.
250	4.05	33.86	248	26.90	118.5	4.33	4.79	1470.



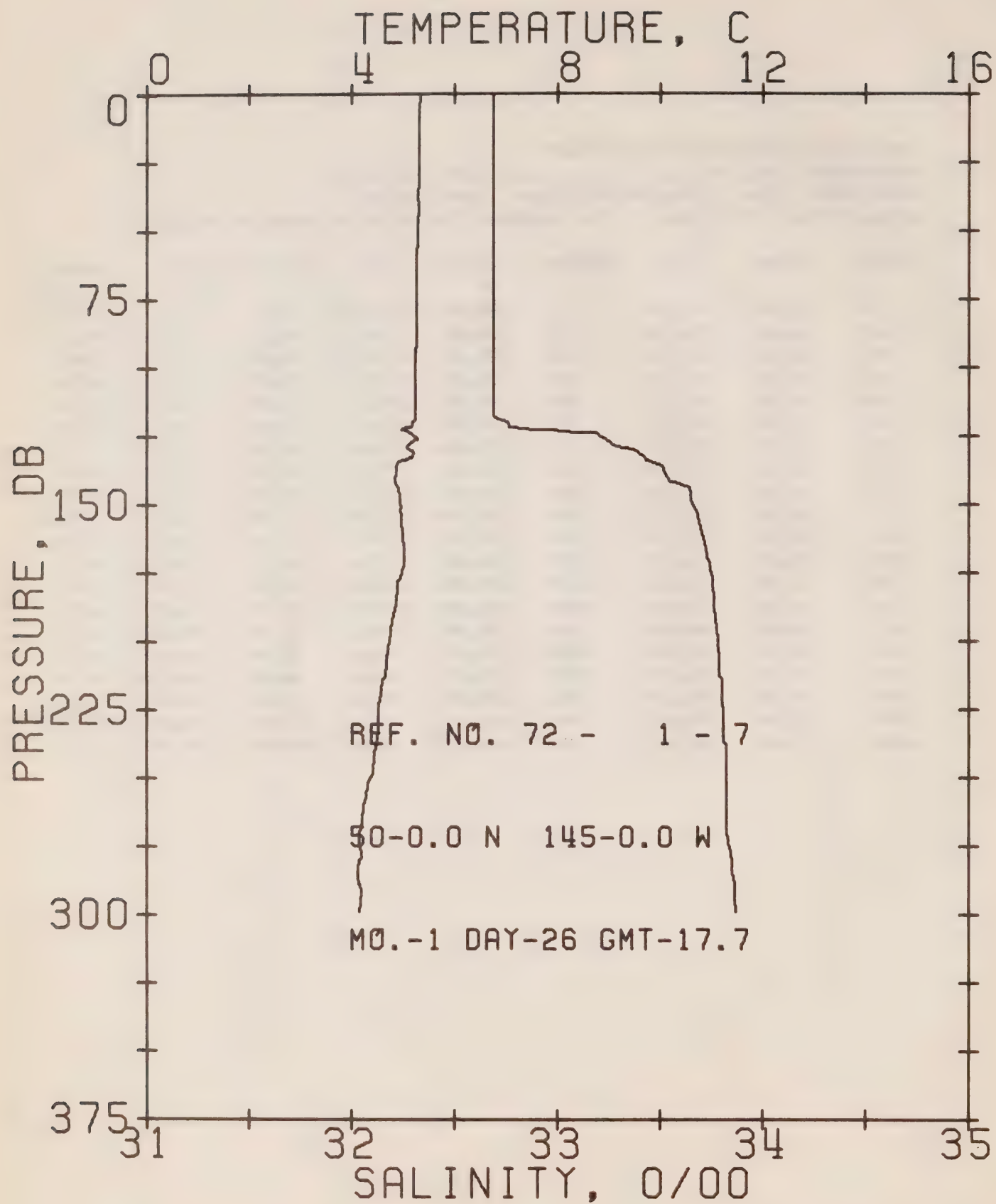
OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 1- 5 DATE 24/ 1/72

POSITION 50- 0.0N. 145- 0.0W GMT 17.5

RESULTS OF STP CAST 179 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SCUND
0	5.28	32.69	0	25.84	216.9	0.0	0.0	1469.
10	5.26	32.71	10	25.86	215.1	0.22	0.01	1469.
20	5.26	32.71	20	25.86	215.6	0.43	0.04	1469.
30	5.26	32.71	30	25.86	215.7	0.65	0.10	1470.
50	5.26	32.71	50	25.86	215.9	1.08	0.27	1470.
75	5.26	32.71	75	25.86	216.1	1.62	0.62	1470.
100	5.27	32.71	99	25.86	216.4	2.16	1.10	1471.
125	4.42	33.19	124	26.33	171.6	2.68	1.70	1468.
150	4.52	33.55	149	26.60	145.8	3.08	2.25	1470.
175	4.63	33.73	174	26.74	133.5	3.42	2.83	1471.
200	4.65	33.79	199	26.78	129.7	3.75	3.45	1471.
225	4.46	33.80	223	26.81	127.1	4.07	4.15	1471.
250	4.29	33.81	248	26.83	124.8	4.39	4.91	1471.
300	4.06	33.91	298	26.94	114.9	4.99	6.59	1471.
400	3.89	34.04	397	27.06	104.5	6.08	10.48	1472.
500	3.72	34.13	496	27.15	96.6	7.08	15.08	1473.
600	3.52	34.21	595	27.23	89.6	8.02	20.30	1474.
800	3.19	34.33	793	27.35	79.0	9.69	32.22	1476.
1000	2.88	34.40	990	27.44	71.6	11.19	45.93	1478.
1200	2.64	34.47	1188	27.52	64.9	12.55	61.15	1480.



OFFSHORE OCEANOGRAPHY GROUP

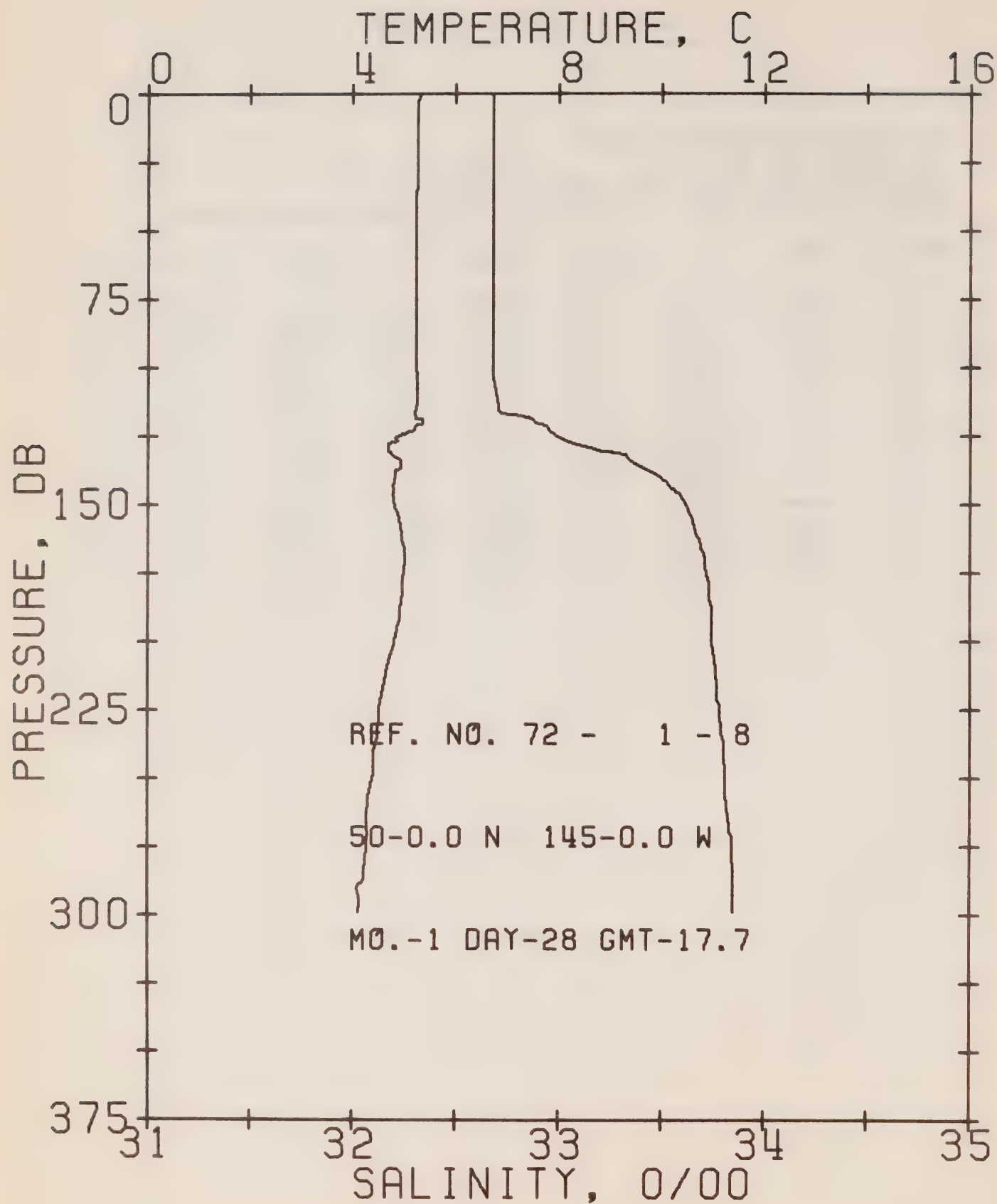
REFERENCE NO. 72- 1- 7

DATE 26/ 1/72

POSITION 50- 0.0N, 145- 0.0W GMT 17.7

RESULTS OF STP CAST 99 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.34	32.68	0	25.82	218.2	0.0	0.0	1469.
10	5.31	32.69	10	25.84	217.5	0.22	0.01	1469.
20	5.32	32.69	20	25.84	217.7	0.44	0.04	1470.
30	5.30	32.69	30	25.84	217.6	0.65	0.10	1470.
50	5.28	32.69	50	25.84	217.6	1.09	0.28	1470.
75	5.26	32.69	75	25.84	217.6	1.63	0.62	1470.
100	5.23	32.69	99	25.85	217.5	2.18	1.11	1471.
125	5.20	33.20	124	26.25	179.2	2.71	1.72	1471.
150	4.95	33.65	149	26.64	142.6	3.10	2.26	1471.
175	4.94	33.74	174	26.71	136.1	3.45	2.84	1472.
200	4.72	33.78	199	26.76	131.2	3.78	3.48	1471.
225	4.50	33.81	223	26.81	127.1	4.10	4.18	1471.
250	4.34	33.82	248	26.84	124.6	4.42	4.94	1471.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 1- 8

DATE 28/ 1/72

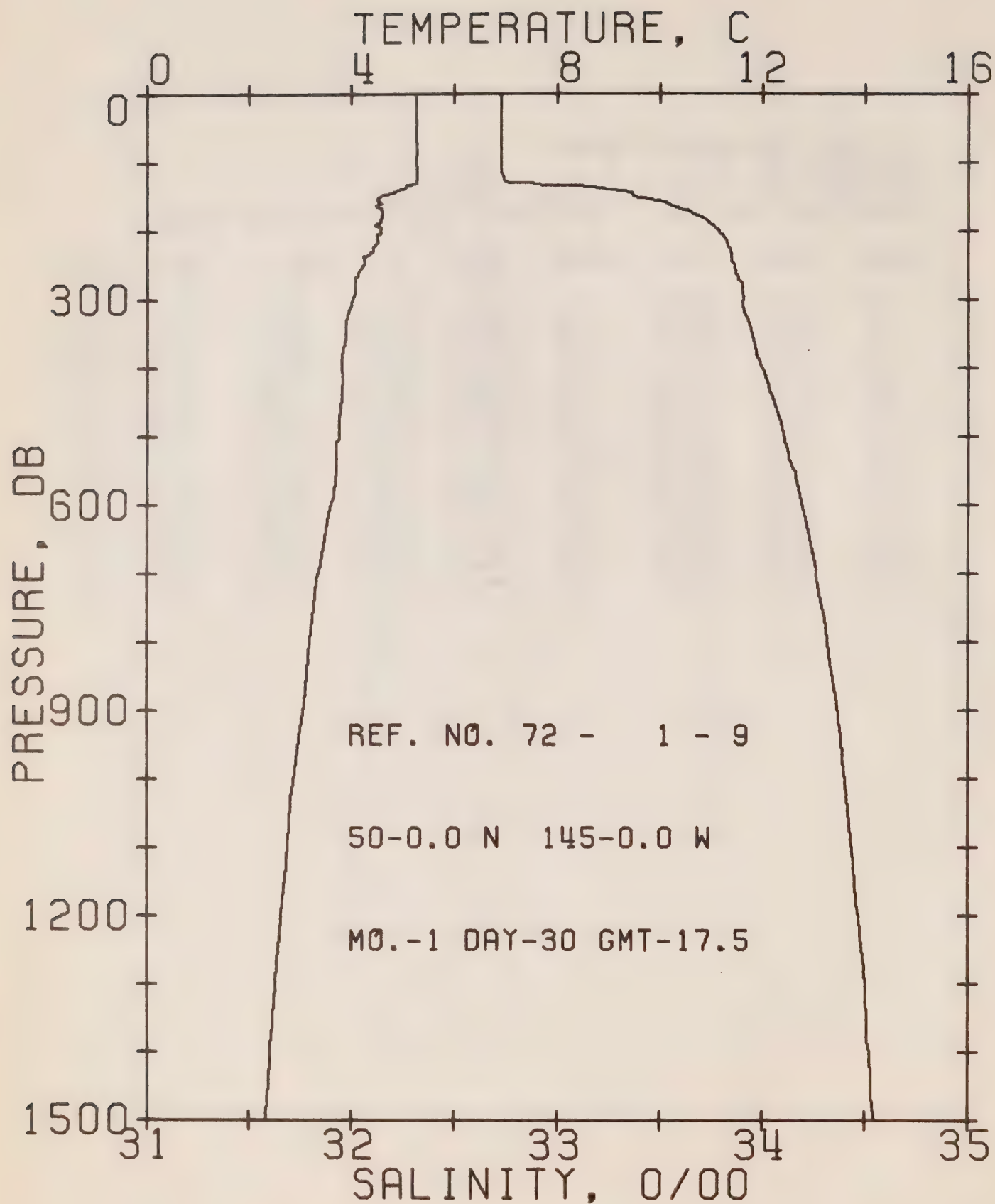
POSITION 50- 0.0N, 145- 0.0W

GMT 17.7

RESULTS OF STP CAST

98 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.30	32.67	0	25.82	218.6	0.0	0.0	1469.
10	5.25	32.68	10	25.84	217.6	0.22	0.01	1469.
20	5.25	32.68	20	25.84	217.7	0.44	0.04	1469.
30	5.24	32.68	30	25.84	217.7	0.65	0.10	1469.
50	5.23	32.68	50	25.84	217.8	1.09	0.28	1470.
75	5.23	32.68	75	25.84	218.0	1.63	0.62	1470.
100	5.23	32.68	99	25.84	218.2	2.18	1.11	1471.
125	4.90	32.98	124	26.11	192.3	2.71	1.72	1470.
150	4.82	33.61	149	26.62	144.3	3.11	2.28	1471.
175	4.98	33.71	174	26.68	138.7	3.47	2.87	1472.
200	4.80	33.74	199	26.72	135.1	3.81	3.52	1472.
225	4.50	33.78	223	26.79	129.0	4.14	4.23	1471.
250	4.36	33.81	248	26.83	125.6	4.46	5.01	1471.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 1- 9

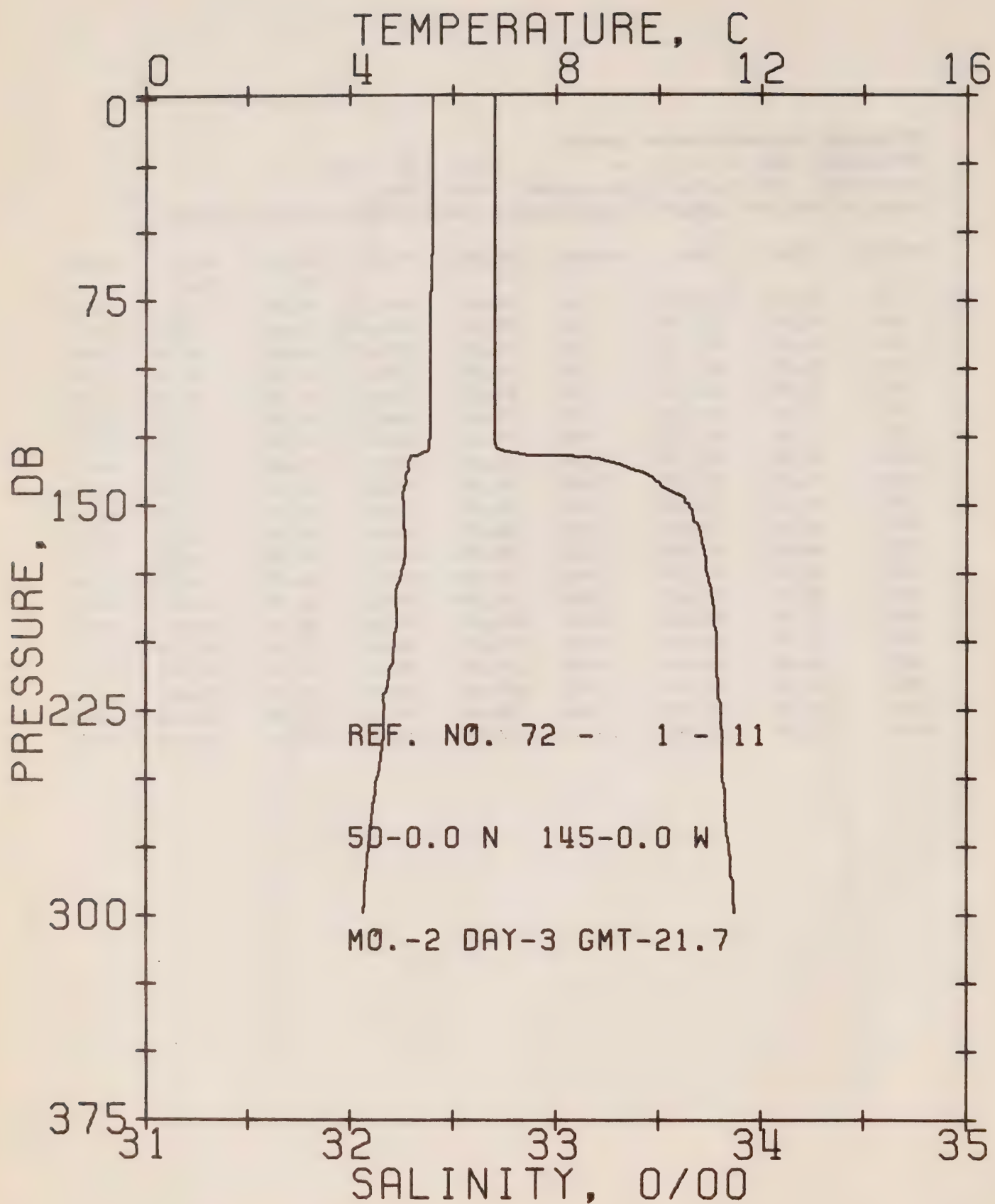
DATE 30/ 1/72

POSITION 50- 0.0N, 145- 0.0W

GMT 17.5

RESULTS OF STP CAST 169 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.25	32.72	0	25.87	214.3	0.0	0.0	1469.
10	5.25	32.73	10	25.87	213.8	0.21	0.01	1469.
20	5.26	32.73	20	25.87	214.0	0.43	0.04	1469.
30	5.25	32.73	30	25.87	214.0	0.64	0.10	1470.
50	5.26	32.73	50	25.87	214.3	1.07	0.27	1470.
75	5.27	32.73	75	25.87	214.7	1.61	0.61	1470.
100	5.26	32.73	99	25.87	214.8	2.14	1.09	1471.
125	5.27	32.74	124	25.88	214.4	2.68	1.71	1471.
150	4.60	33.37	149	26.45	160.1	3.14	2.35	1470.
175	4.62	33.66	174	26.68	138.9	3.51	2.96	1471.
200	4.55	33.78	199	26.78	129.4	3.84	3.60	1471.
225	4.43	33.83	223	26.84	124.4	4.16	4.28	1471.
250	4.25	33.86	248	26.88	120.8	4.47	5.02	1470.
300	4.03	33.91	298	26.94	115.1	5.05	6.67	1470.
400	3.81	33.99	397	27.03	107.2	6.17	10.64	1471.
500	3.75	34.11	496	27.13	99.0	7.20	15.36	1473.
600	3.60	34.19	595	27.21	91.9	8.15	20.71	1474.
800	3.18	34.31	793	27.34	79.8	9.86	32.81	1476.
1000	2.86	34.40	990	27.44	71.3	11.36	46.59	1478.
1200	2.61	34.46	1188	27.52	64.8	12.72	61.84	1480.



OFFSHORE OCEANOGRAPHY GROUP

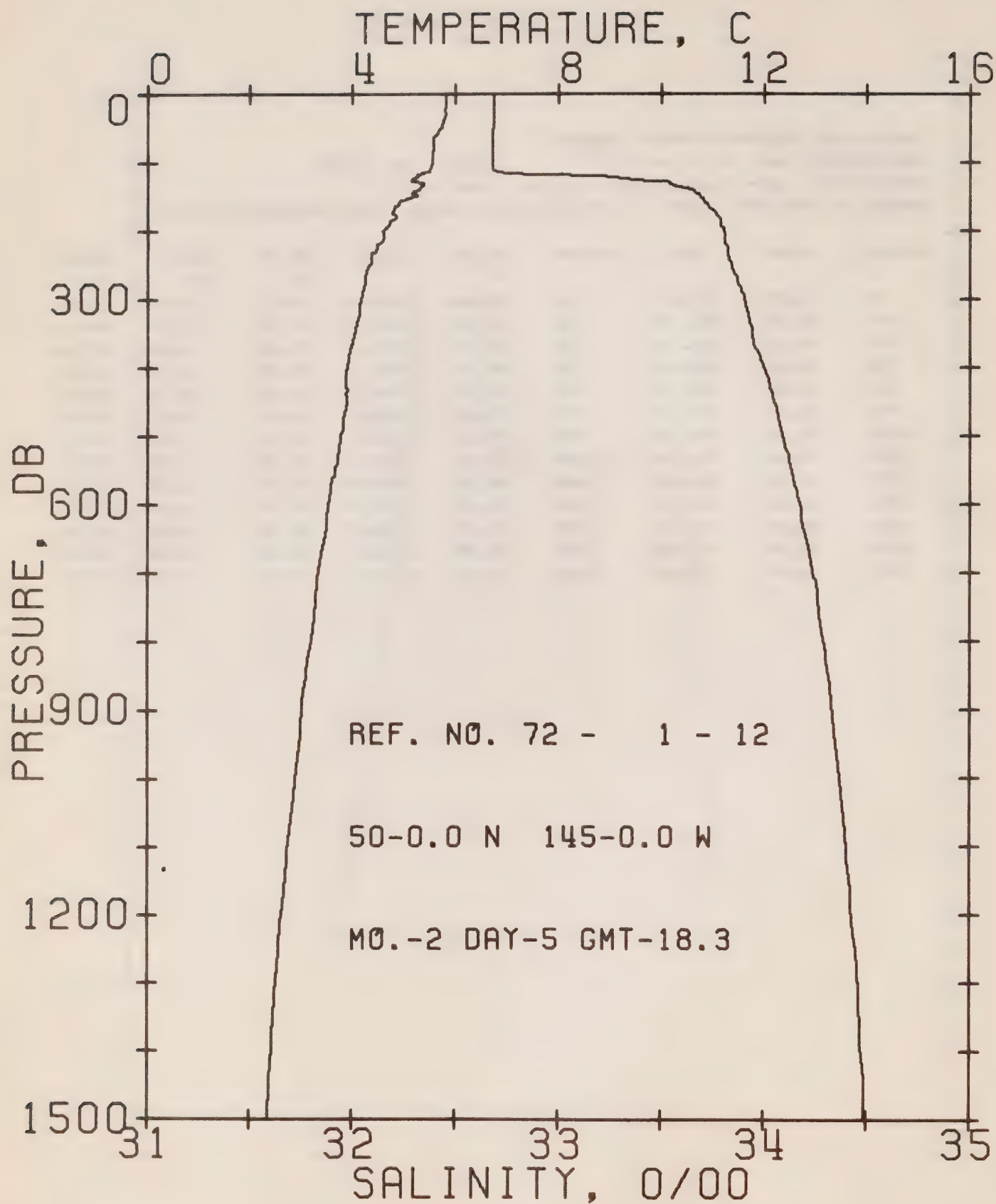
REFERENCE NO. 72- 1- 11

DATE 3/ 2/72

POSITION 50- 0.0N, 145- 0.0W GMT 21.7

RESULTS OF STP CAST 99 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.60	32.69	0	25.80	220.4	0.0	0.0	1470.
10	5.60	32.70	10	25.81	219.9	0.22	0.01	1471.
20	5.60	32.70	20	25.81	220.0	0.44	0.04	1471.
30	5.60	32.70	30	25.81	220.1	0.66	0.10	1471.
50	5.60	32.70	50	25.81	220.3	1.10	0.28	1471.
75	5.55	32.70	75	25.82	220.0	1.65	0.63	1471.
100	5.54	32.70	99	25.82	220.2	2.20	1.12	1472.
125	5.54	32.70	124	25.82	220.5	2.75	1.75	1472.
150	5.03	33.65	149	26.63	143.9	3.19	2.36	1472.
175	4.98	33.73	174	26.70	137.3	3.54	2.94	1472.
200	4.85	33.78	199	26.75	132.7	3.88	3.59	1472.
225	4.66	33.80	223	26.79	129.3	4.21	4.30	1472.
250	4.52	33.81	248	26.81	127.3	4.53	5.07	1472.



OFFSHORE OCEANOGRAPHY GROUP

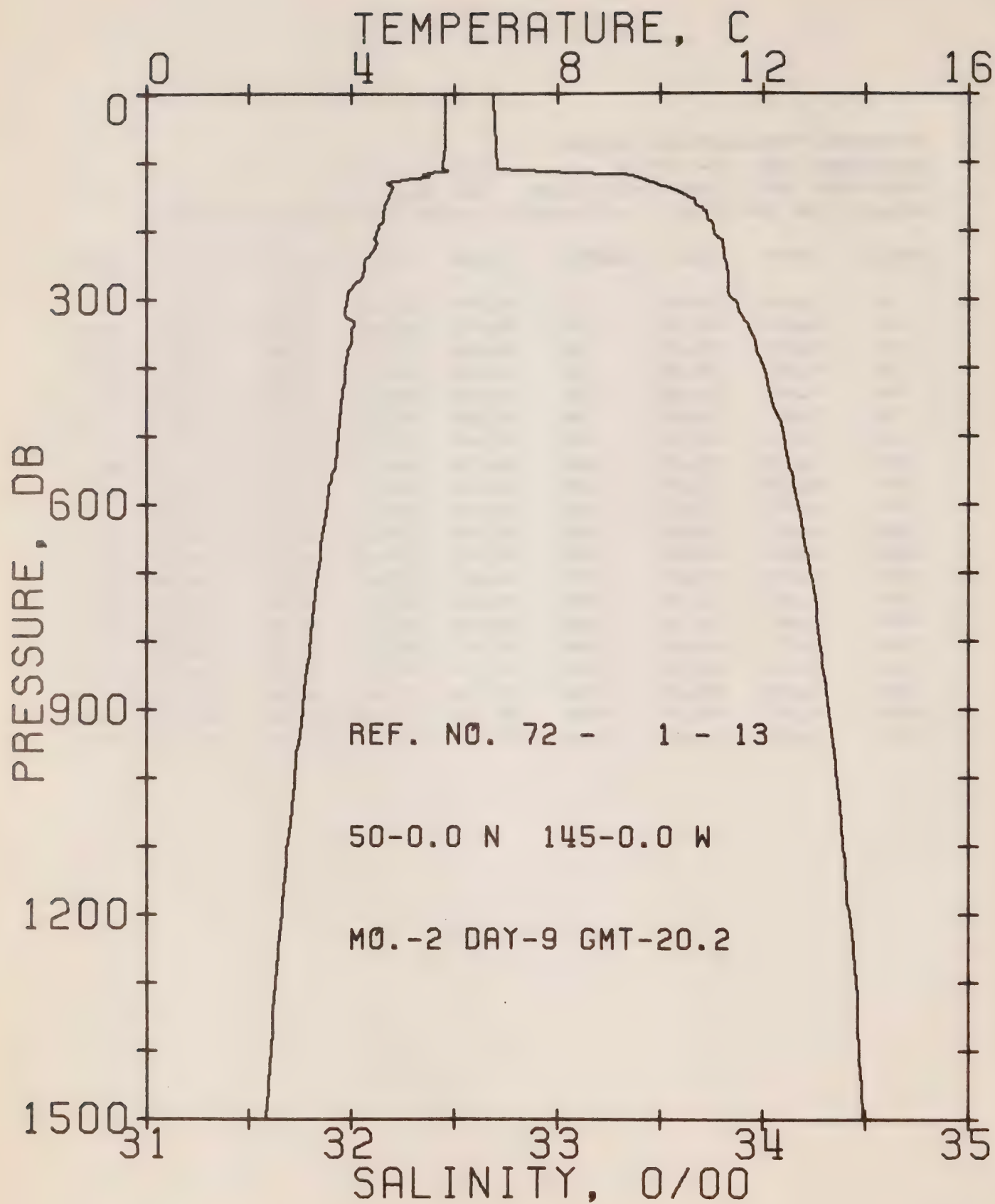
REFERENCE NO. 72- 1- 12

DATE 5/ 2/72

POSITION 50- 0.0N, 145- 0.0W GMT 18.3

RESULTS OF STP CAST 177 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.80	32.68	0	25.77	223.4	0.0	0.0	1471.
10	5.80	32.69	10	25.78	223.0	0.22	0.01	1471.
20	5.80	32.69	20	25.78	223.0	0.45	0.05	1472.
30	5.80	32.69	30	25.78	223.2	0.67	0.10	1472.
50	5.73	32.69	50	25.79	222.6	1.11	0.28	1472.
75	5.57	32.68	75	25.80	221.8	1.67	0.64	1471.
100	5.54	32.68	99	25.80	221.7	2.22	1.13	1472.
125	5.16	33.37	124	26.39	166.0	2.75	1.73	1472.
150	5.22	33.69	149	26.64	143.0	3.12	2.26	1473.
175	4.78	33.77	174	26.75	132.4	3.47	2.82	1471.
200	4.60	33.80	199	26.79	128.4	3.79	3.45	1471.
225	4.48	33.82	223	26.82	125.8	4.11	4.14	1471.
250	4.32	33.84	248	26.86	123.0	4.42	4.89	1471.
300	4.17	33.90	298	26.92	117.2	5.02	6.57	1471.
400	3.89	34.00	397	27.02	107.9	6.15	10.59	1472.
500	3.77	34.09	496	27.11	100.5	7.20	15.37	1473.
600	3.53	34.17	595	27.20	92.5	8.16	20.77	1474.
800	3.19	34.29	793	27.33	81.6	9.90	33.11	1476.
1000	2.89	34.37	990	27.42	73.8	11.45	47.31	1478.
1200	2.62	34.43	1188	27.48	67.8	12.86	63.14	1480.



OFFSHORE OCEANOGRAPHY GROUP

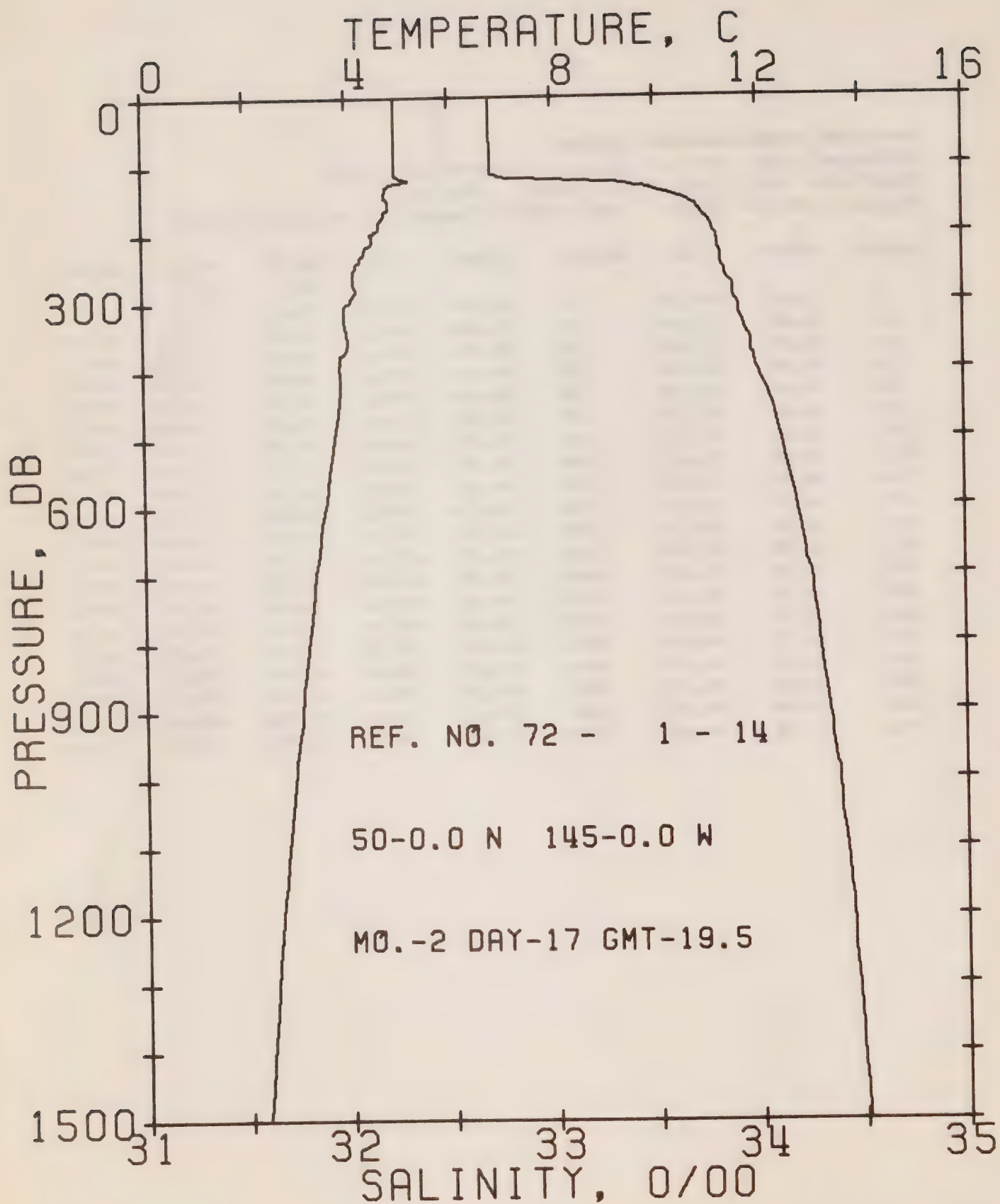
REFERENCE NO. 72- 1- 13

DATE 9/ 2/72

POSITION 50- 0.0N, 145- 0.0W GMT 20.2

RESULTS OF STP CAST 148 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.82	32.68	0	25.77	223.6	0.0	0.0	1471.
10	5.82	32.69	10	25.78	223.2	0.22	0.01	1471.
20	5.82	32.69	20	25.78	223.2	0.45	0.05	1472.
30	5.82	32.69	30	25.78	223.2	0.67	0.10	1472.
50	5.82	32.70	50	25.78	223.2	1.12	0.28	1472.
75	5.82	32.70	75	25.78	223.3	1.67	0.64	1473.
100	5.78	32.71	99	25.79	222.4	2.23	1.14	1473.
125	5.16	33.41	124	26.42	163.0	2.73	1.71	1472.
150	4.72	33.63	149	26.65	141.9	3.11	2.24	1470.
175	4.62	33.72	174	26.73	134.2	3.46	2.81	1471.
200	4.50	33.75	199	26.77	130.9	3.79	3.44	1471.
225	4.45	33.80	223	26.81	127.0	4.11	4.14	1471.
250	4.25	33.82	248	26.85	123.6	4.42	4.89	1470.
300	3.91	33.84	298	26.90	118.6	5.03	6.59	1470.
400	3.87	34.00	397	27.03	107.5	6.16	10.61	1472.
500	3.73	34.10	496	27.12	99.3	7.19	15.35	1473.
600	3.51	34.17	595	27.20	92.5	8.15	20.73	1473.
800	3.19	34.27	793	27.31	82.8	9.89	33.12	1476.
1000	2.88	34.36	990	27.41	74.5	11.46	47.45	1478.
1200	2.63	34.42	1188	27.48	68.1	12.88	63.41	1480.



OFFSHORE OCEANOGRAPHY GROUP

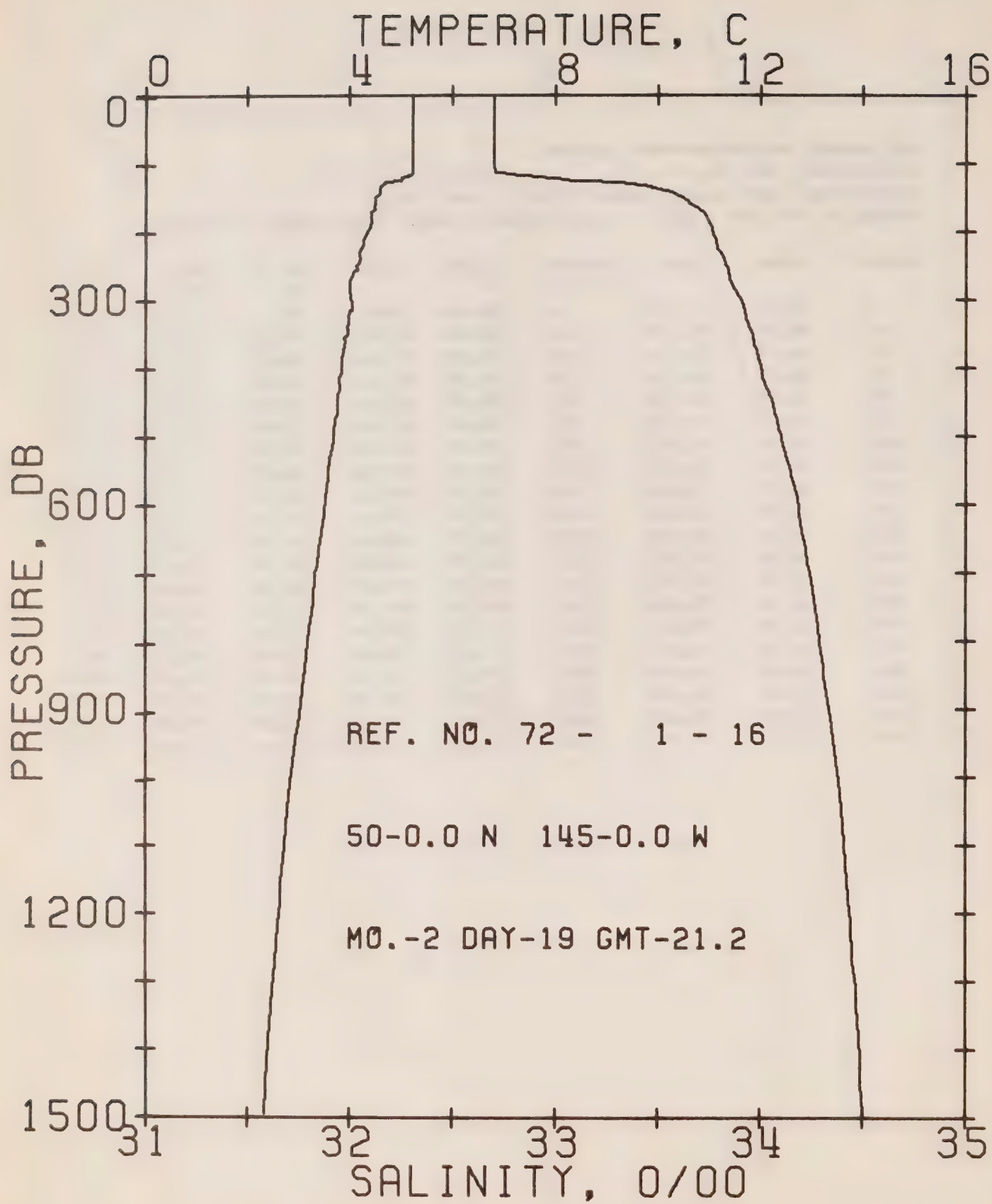
REFERENCE NO. 72- 1- 14

DATE 17/ 2/72

POSITION 50- 0.0N, 145- 0.0W GMT 19.5

RESULTS OF STP CAST 129 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	4.97	32.70	0	25.88	212.8	0.0	0.0	1468.
10	4.97	32.70	10	25.88	213.1	0.21	0.01	1468.
20	4.97	32.70	20	25.88	213.2	0.43	0.04	1468.
30	4.97	32.70	30	25.88	213.3	0.64	0.10	1468.
50	4.97	32.70	50	25.88	213.3	1.07	0.27	1469.
75	4.97	32.71	75	25.89	213.2	1.60	0.61	1469.
100	4.97	32.71	99	25.89	213.2	2.13	1.09	1469.
125	5.09	33.19	124	26.26	178.8	2.65	1.68	1471.
150	4.80	33.64	149	26.65	142.1	3.04	2.22	1471.
175	4.73	33.74	174	26.73	134.1	3.38	2.79	1471.
200	4.53	33.79	199	26.79	128.4	3.71	3.42	1471.
225	4.34	33.81	223	26.83	125.0	4.03	4.10	1470.
250	4.15	33.83	248	26.87	121.9	4.34	4.85	1470.
300	4.05	33.89	298	26.93	116.5	4.93	6.52	1470.
400	3.85	34.00	357	27.03	107.4	6.05	10.50	1471.
500	3.73	34.11	496	27.13	98.5	7.08	15.21	1473.
600	3.55	34.18	595	27.21	91.8	8.03	20.54	1474.
800	3.19	34.29	793	27.33	81.4	9.75	32.77	1476.
1000	2.89	34.38	990	27.43	72.7	11.29	46.90	1478.
1200	2.63	34.44	1188	27.50	66.4	12.69	62.51	1480.



OFFSHORE OCEANOGRAPHY GROUP

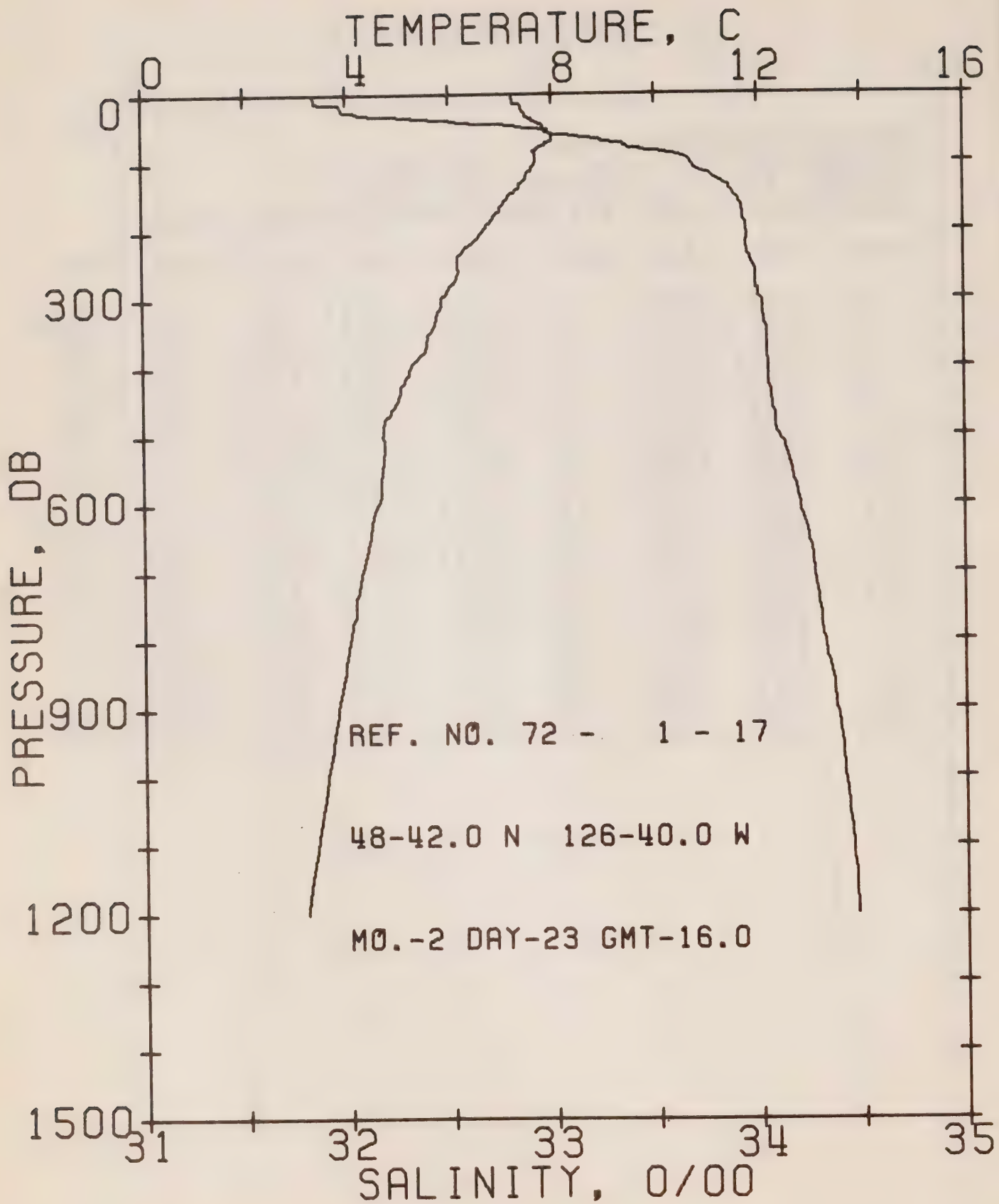
REFERENCE NO. 72- 1- 16

DATE 19/ 2/72

POSITION 50- 0.0N, 145- 0.0W GMT 21.2

RESULTS OF STP CAST 125 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.22	32.70	0	25.85	215.4	0.0	0.0	1469.
10	5.22	32.70	10	25.85	215.8	0.22	0.01	1469.
20	5.22	32.70	20	25.85	215.8	0.43	0.04	1469.
30	5.22	32.70	30	25.85	215.9	0.65	0.10	1469.
50	5.22	32.70	50	25.85	216.1	1.08	0.28	1470.
75	5.22	32.70	75	25.85	216.4	1.62	0.62	1470.
100	5.23	32.70	99	25.85	216.7	2.16	1.10	1471.
125	4.98	33.09	124	26.19	185.1	2.69	1.70	1470.
150	4.51	33.62	149	26.66	140.4	3.07	2.24	1470.
175	4.44	33.73	174	26.75	132.0	3.41	2.80	1470.
200	4.35	33.76	199	26.79	128.5	3.74	3.43	1470.
225	4.22	33.79	223	26.83	125.4	4.05	4.11	1470.
250	4.14	33.83	248	26.87	121.8	4.36	4.86	1470.
300	4.03	33.90	298	26.93	115.6	4.96	6.52	1470.
400	3.84	34.00	397	27.04	106.8	6.07	10.48	1471.
500	3.67	34.10	496	27.13	98.7	7.10	15.19	1472.
600	3.52	34.18	595	27.21	91.5	8.05	20.51	1474.
800	3.17	34.29	793	27.33	81.4	9.77	32.80	1475.
1000	2.85	34.38	990	27.43	72.7	11.31	46.90	1478.
1200	2.60	34.44	1188	27.49	66.9	12.71	62.48	1480.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 1- 17

DATE 23/ 2/72

POSITION 48-42.0N, 126-40.0W

GMT 16.0

RESULTS OF STP CAST 208 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.23	31.84	0	24.93	303.6	0.0	0.0	1476.
10	7.24	31.85	10	24.93	303.5	0.30	0.02	1476.
20	7.42	31.98	20	25.01	296.4	0.60	0.06	1477.
30	7.49	32.07	30	25.07	290.4	0.90	0.14	1478.
50	7.81	32.87	50	25.65	235.4	1.42	0.35	1480.
75	7.86	33.35	75	26.02	200.8	1.97	0.69	1481.
100	7.66	33.67	99	26.31	174.4	2.43	1.11	1482.
125	7.47	33.80	124	26.43	163.0	2.85	1.59	1481.
150	7.16	33.89	149	26.54	152.5	3.25	2.14	1481.
175	6.95	33.92	174	26.60	147.2	3.62	2.76	1480.
200	6.66	33.94	199	26.65	142.5	3.98	3.45	1480.
225	6.30	33.94	223	26.70	138.3	4.33	4.21	1479.
250	6.16	33.97	248	26.75	134.4	4.67	5.03	1478.
300	5.85	34.00	298	26.81	128.8	5.33	6.88	1478.
400	5.23	34.05	397	26.92	119.0	6.58	11.31	1477.
500	4.67	34.10	495	27.02	109.7	7.73	16.57	1477.
600	4.59	34.20	595	27.11	102.3	8.78	22.51	1478.
800	4.01	34.32	793	27.27	88.6	10.68	35.99	1479.
1000	3.54	34.41	991	27.39	77.9	12.33	51.13	1480.
1200	3.14	34.47	1188	27.47	70.4	13.81	67.66	1482.

SURFACE TEMPERATURE AND SALINITY OBSERVATIONS
(P-72-1)

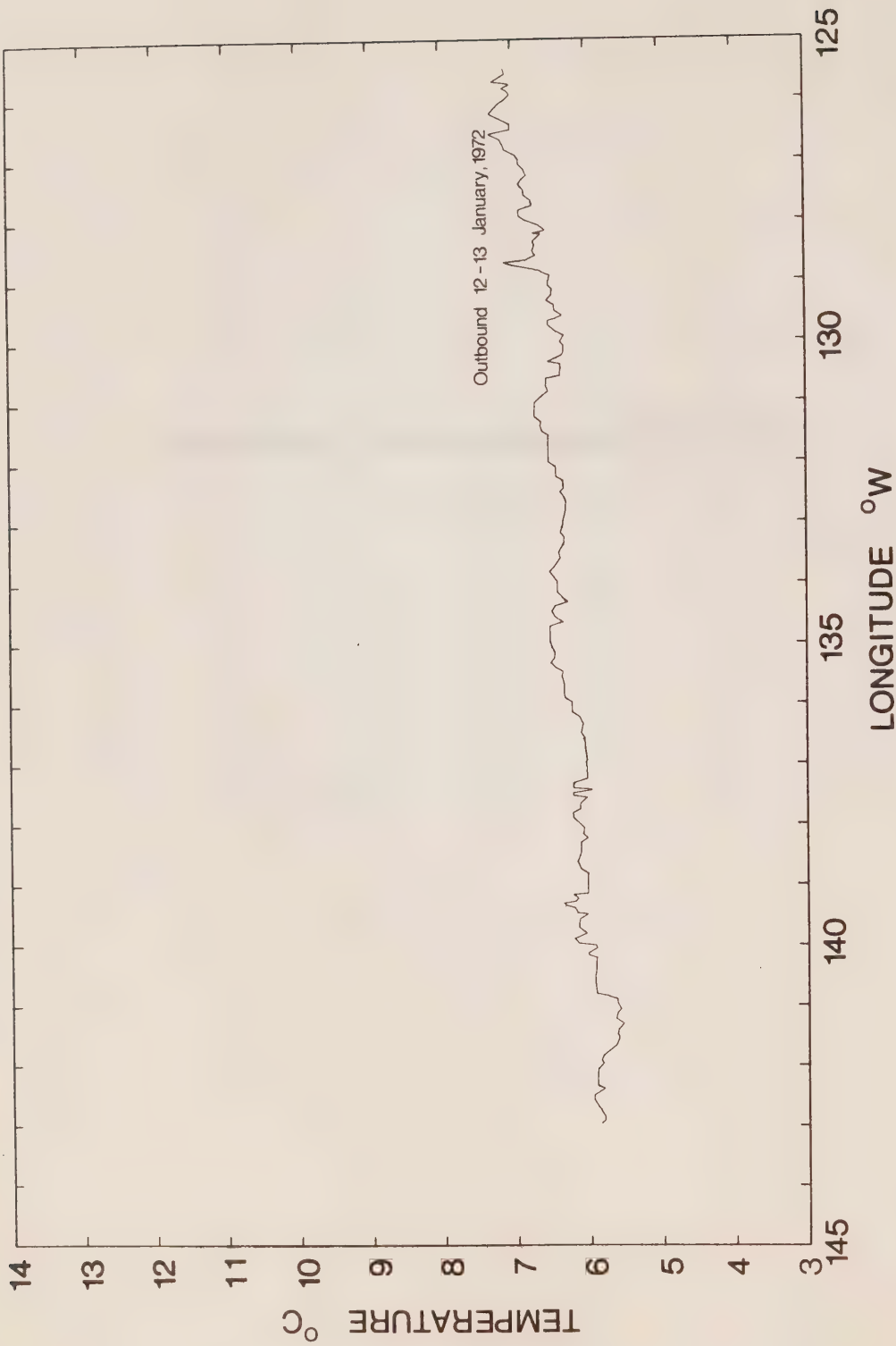


Fig. 7a Graph of Line P surface temperatures as continuously recorded from a probe located at the engine room intake (approximately 3 meters below surface). P-72-1.

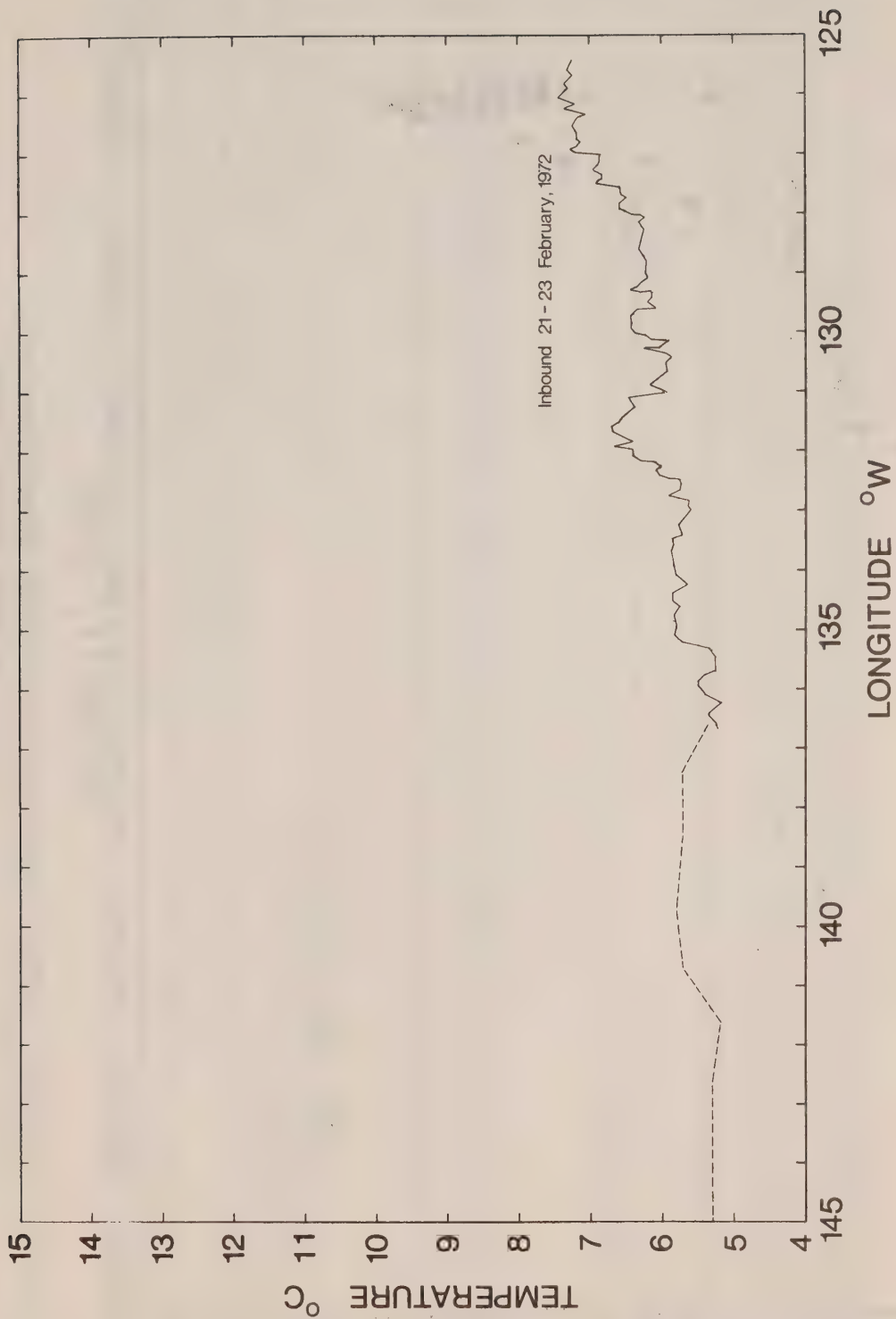


Fig. 7b Graph of Line P surface temperatures as continuously recorded from a probe located at the engine room intake (approximately 3 meters below surface), P-72-1.

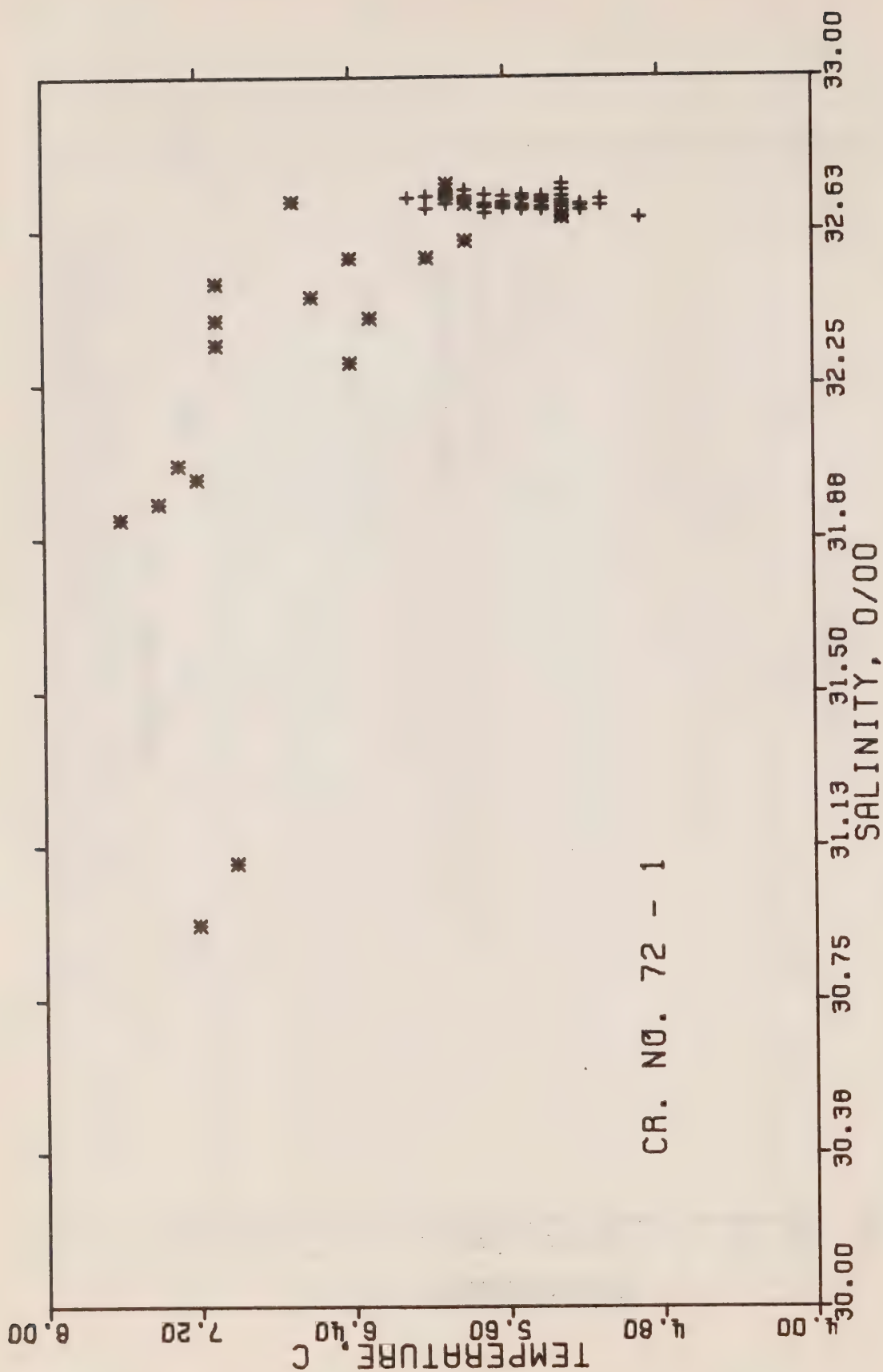


Fig. 8 T-S plot of surface temperature and salinity observations on Line P (asterisks) and at Station P (pluses) during Cruise P-72-1.

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 72- 1

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DY	GMT	O/00	C	WEST
72	1	8	130	31.084	7.0	125-32
72	1	8	300	31.922	7.6	126- 0
72	1	8	505	32.023	7.2	126-40
72	1	8	810	32.347	7.1	127-40
72	1	8	1300	32.408	7.1	128-40
72	1	8	1612	32.304	6.4	129-40
72	1	8	1925	32.498	7.1	130-40
72	1	8	0	32.587	0.0	131-40
72	1	9	630	32.609	0.0	132-40
72	1	16	0	32.703	6.1	ON STATION
72	1	17	0	32.703	5.5	ON STATION
72	1	18	0	32.709	5.5	ON STATION
72	1	19	0	32.699	5.4	ON STATION
72	1	20	0	32.699	5.5	ON STATION
72	1	21	0	32.690	5.3	ON STATION
72	1	22	0	32.708	5.4	ON STATION
72	1	23	0	32.713	5.7	ON STATION
72	1	24	0	32.687	5.3	ON STATION
72	1	25	0	32.708	5.6	ON STATION
72	1	26	0	32.718	5.9	ON STATION
72	1	27	0	32.706	5.3	ON STATION
72	1	29	0	32.711	5.5	ON STATION
72	1	30	0	32.688	5.2	ON STATION
72	1	31	0	32.694	5.4	ON STATION
72	2	1	0	32.708	5.4	ON STATION
72	2	2	0	32.724	5.8	ON STATION
72	2	3	0	32.712	5.9	ON STATION
72	2	4	0	32.708	5.8	ON STATION
72	2	5	0	32.679	6.0	ON STATION
72	2	5	300	32.687	5.6	ON STATION
72	2	5	400	32.685	5.5	ON STATION
72	2	5	500	32.682	5.5	ON STATION
72	2	5	600	32.688	5.6	ON STATION
72	2	5	700	32.685	5.6	ON STATION
72	2	5	800	32.685	5.5	ON STATION
72	2	5	900	32.681	5.5	ON STATION
72	2	5	1000	32.681	5.5	ON STATION
72	2	5	1100	32.679	5.5	ON STATION
72	2	5	1200	32.679	5.5	ON STATION
72	2	5	1400	32.679	5.5	ON STATION
72	2	5	1500	32.679	5.5	ON STATION
72	2	5	1600	32.680	5.5	ON STATION
72	2	5	1700	32.675	5.5	ON STATION
72	2	5	1800	32.701	5.9	ON STATION
72	2	5	1900	32.705	5.9	ON STATION
72	2	5	2000	32.701	5.9	ON STATION
72	2	5	2100	32.695	5.8	ON STATION
72	2	5	2200	32.678	5.6	ON STATION
72	2	5	2300	32.682	5.6	ON STATION

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 72- 1

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DAY	GMT	0/00	C	WEST
72	2	5	2300	32.682	5.6	ON STATION
72	2	6	0	32.681	5.7	ON STATION
72	2	6	100	32.678	5.5	ON STATION
72	2	6	200	32.693	5.6	ON STATION
72	2	7	0	32.681	5.4	ON STATION
72	2	8	0	32.665	5.7	ON STATION
72	2	9	0	32.689	5.9	ON STATION
72	2	10	0	32.707	6.0	ON STATION
72	2	11	0	32.705	5.9	ON STATION
72	2	12	0	32.688	5.7	ON STATION
72	2	13	0	32.654	5.3	ON STATION
72	2	14	0	32.674	5.4	ON STATION
72	2	15	0	32.673	5.2	ON STATION
72	2	16	0	32.654	4.9	ON STATION
72	2	17	0	32.682	5.3	ON STATION
72	2	18	0	32.686	5.2	ON STATION
72	2	19	0	32.684	5.1	ON STATION
72	2	20	0	32.699	5.1	ON STATION
72	2	21	0	32.697	5.3	ON STATION
72	2	21	700	32.722	5.3	143-40
72	2	21	1430	32.736	5.3	142-40
72	2	22	910	32.657	5.3	136-40
72	2	22	1230	32.656	5.3	135-40
72	2	22	1545	32.687	5.8	134-40
72	2	22	1815	32.738	5.9	133-40
72	2	22	2120	32.597	5.8	132-40
72	2	23	25	32.696	6.7	131-40
72	2	23	330	32.558	6.0	130-40
72	2	23	620	32.559	6.4	129-40
72	2	23	1010	32.413	6.3	128-40
72	2	23	1245	32.464	6.6	127-40
72	2	23	1540	32.054	7.3	126-40
72	2	23	1855	31.960	7.4	126- 0
72	2	23	2135	30.933	7.2	125-32

OCEANOGRAPHIC DATA OBTAINED ON CRUISE P-72-2
(CODC REFERENCE NO. 15-72-002)

SALINITY DIFFERENCE, BOTTLE - S.T.D. ‰

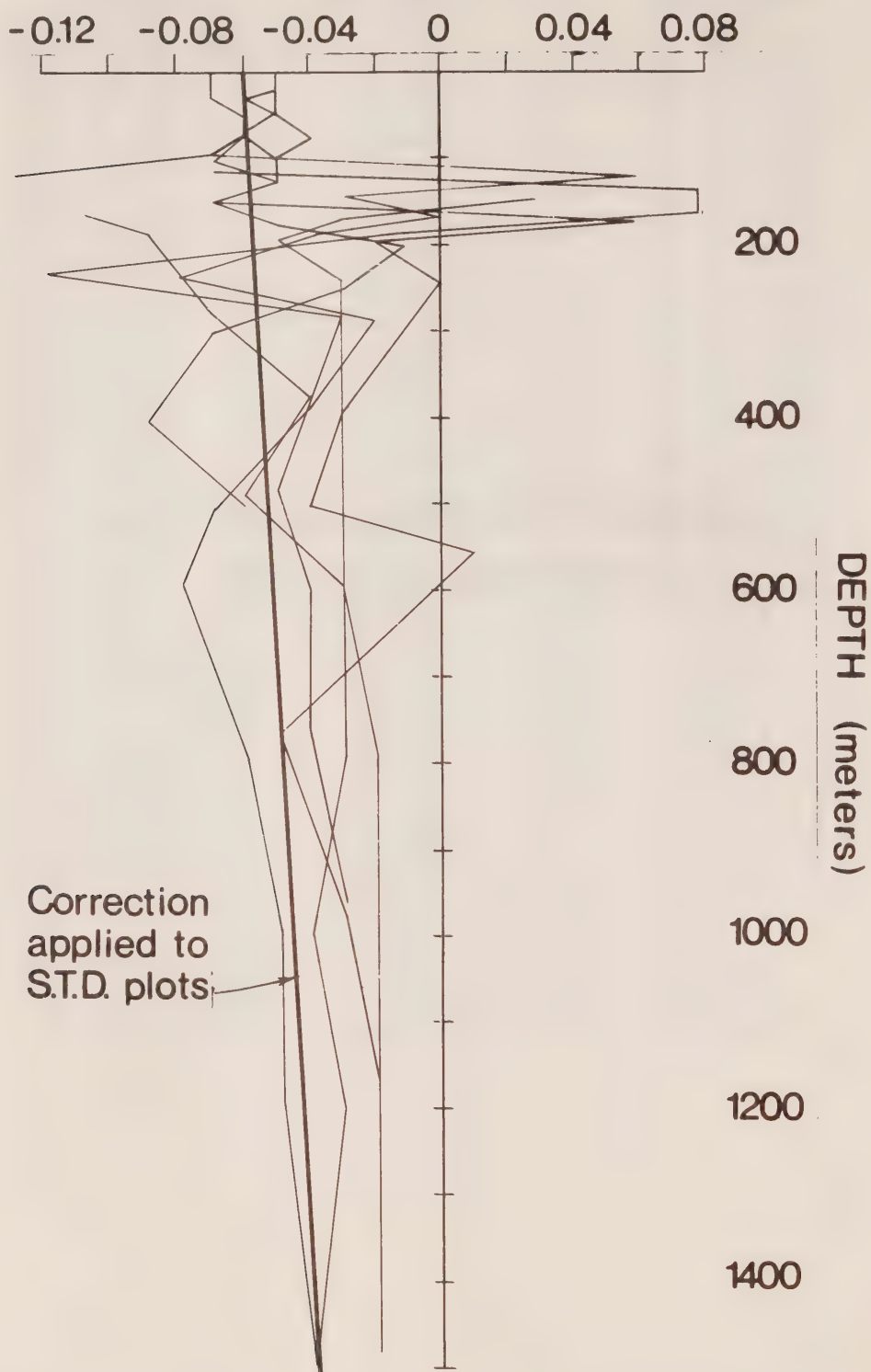


Fig. 9 Bottle - STD salinity value difference profiles P-72-2.

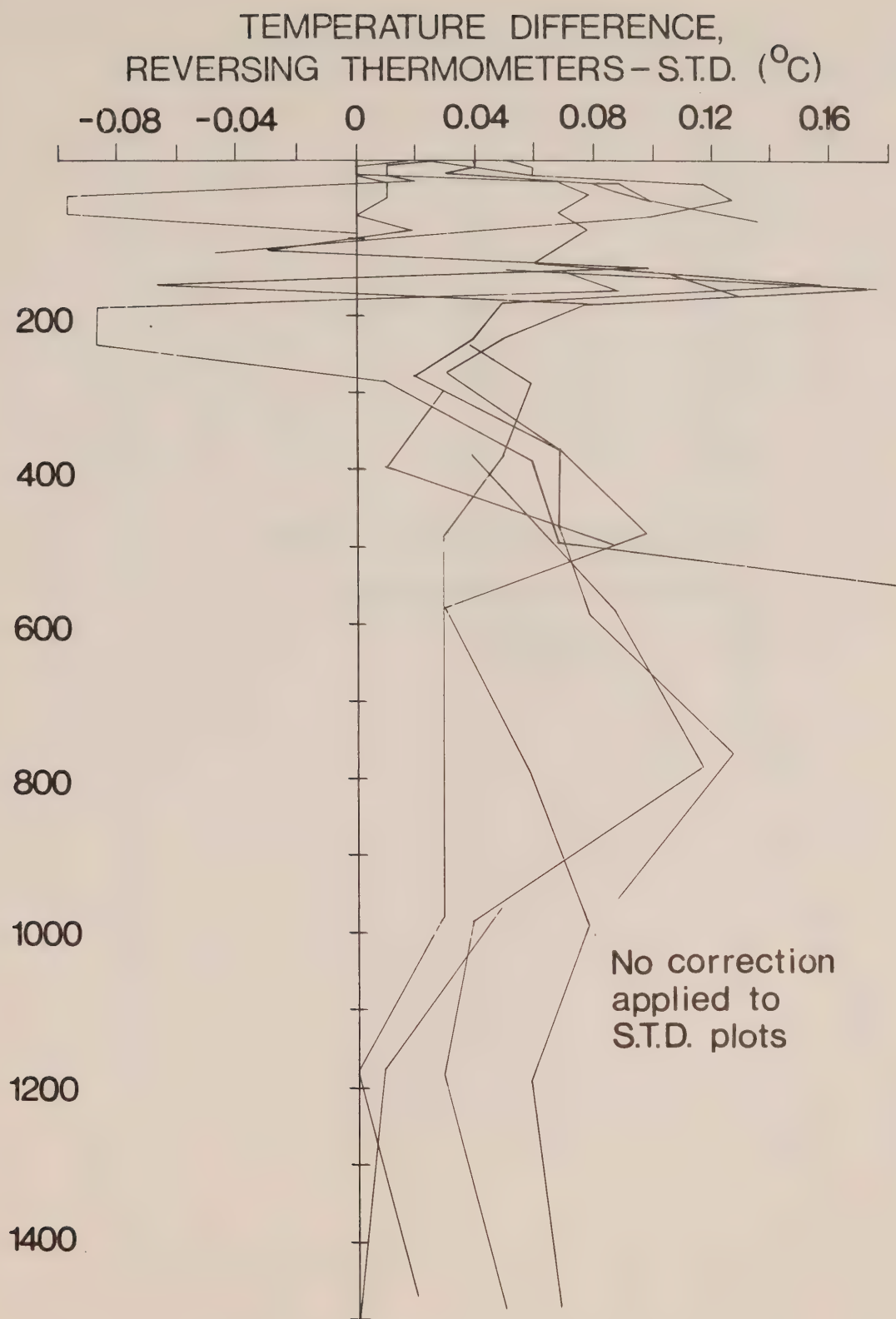


Fig. 10 Reversing thermometer - STD temperature difference profiles P-72-2.

COMPOSITE PLOTS OF TEMPERATURE, SALINITY
AND DISSOLVED OXYGEN VS DEPTH
(P-72-2)

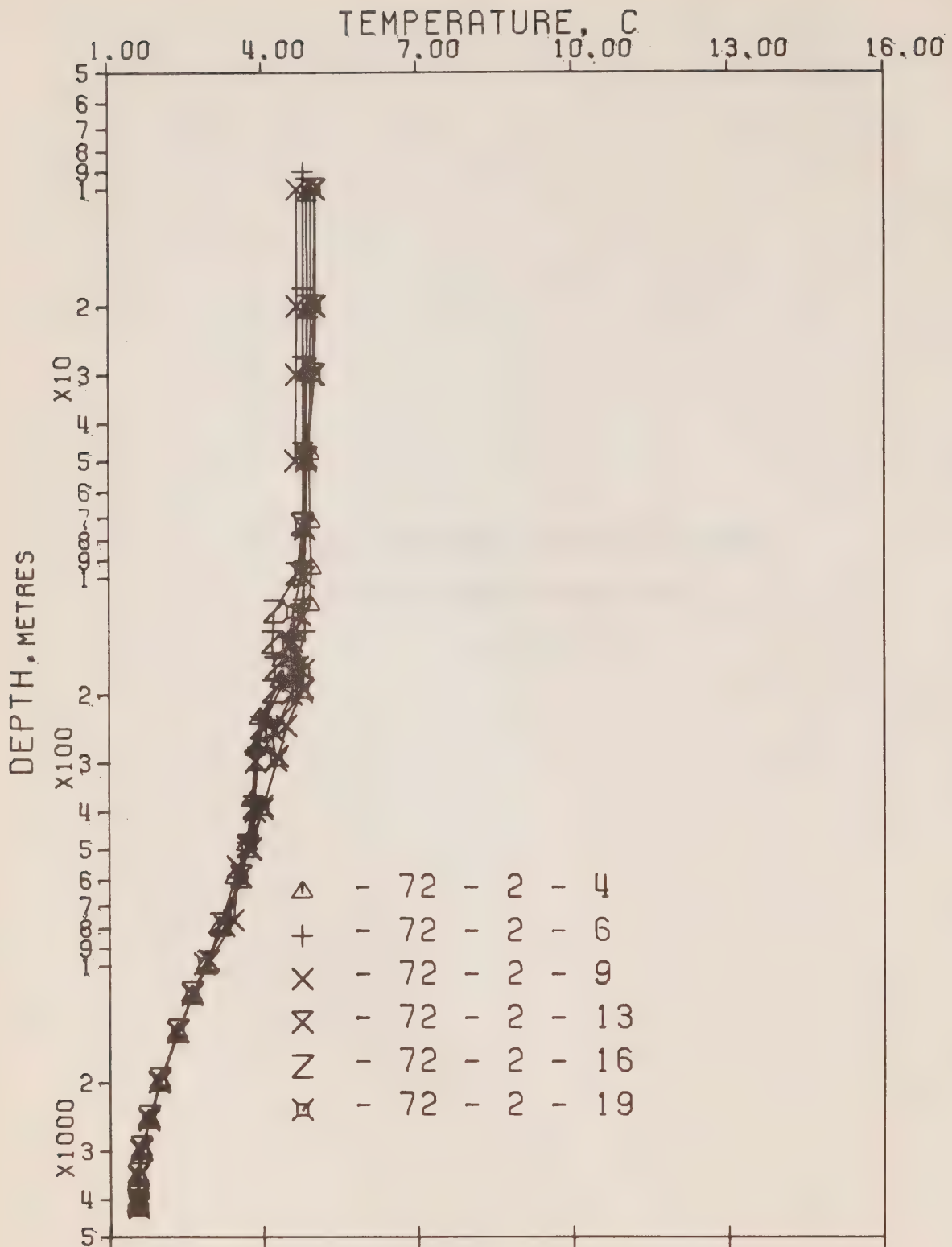


Fig. 11 Composite plot of temperature vs \log_{10} depth P-72-2.

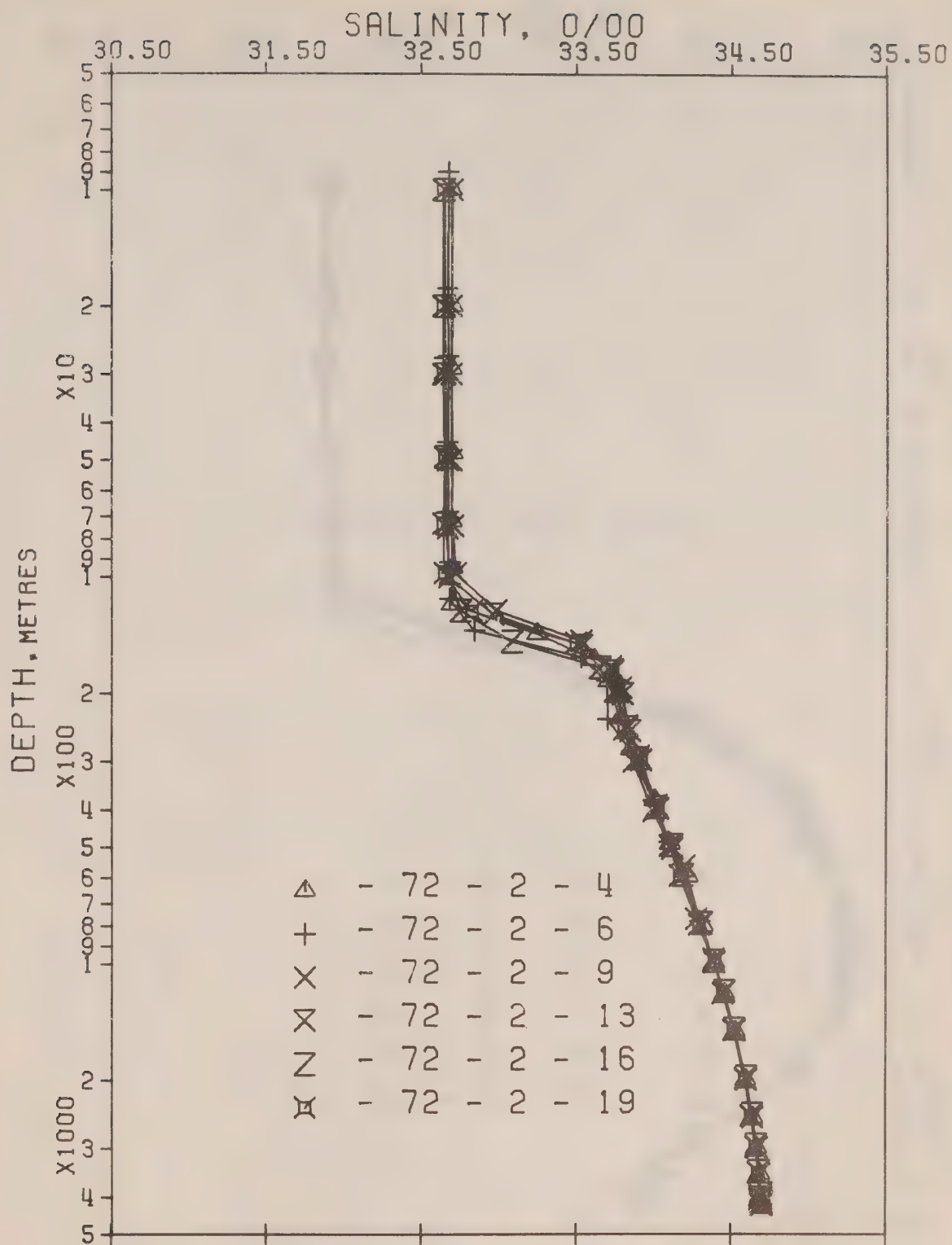


Fig. 12 Composite plot of salinity vs \log_{10} depth P-72-2.

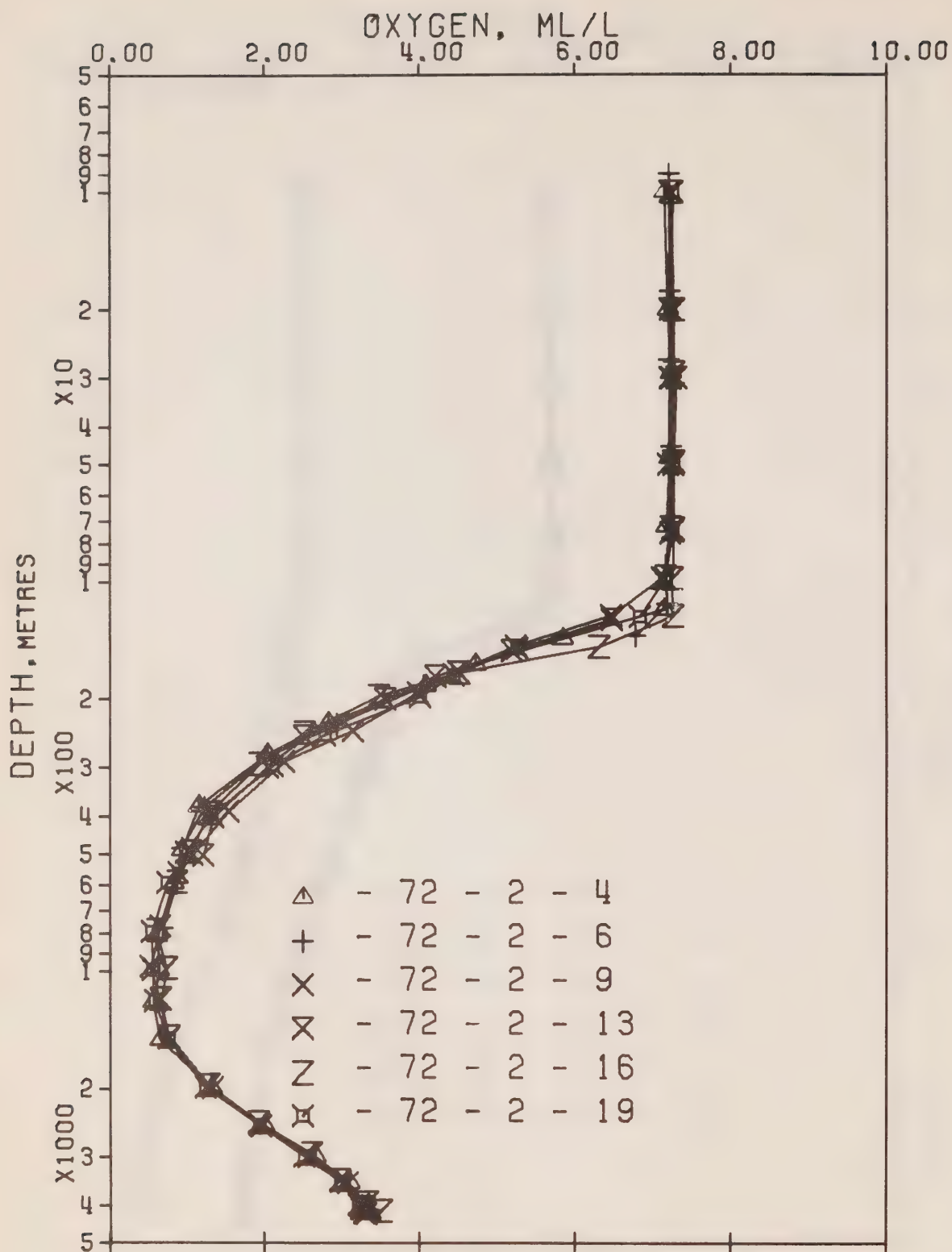
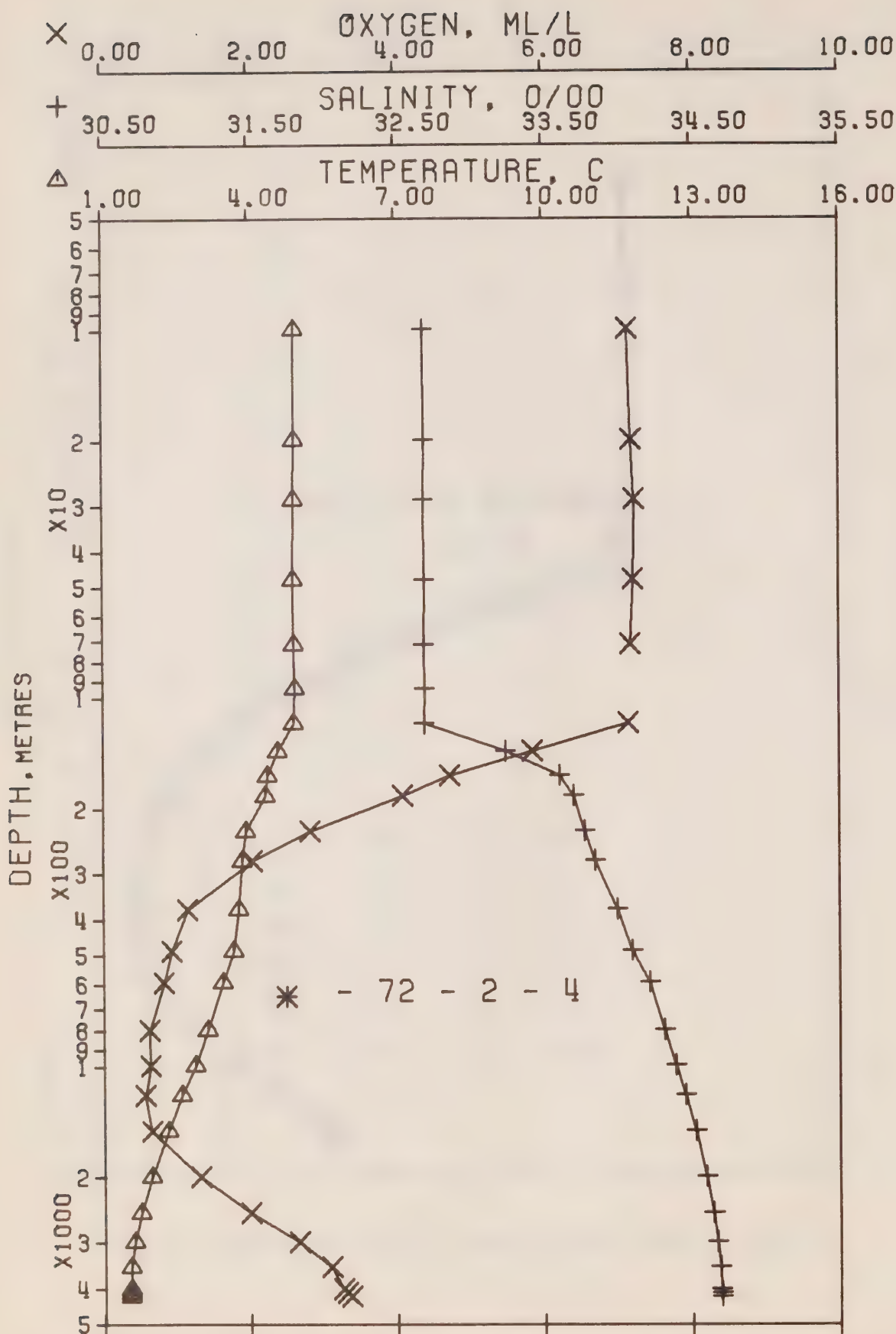


Fig. 13 Composite plot of oxygen vs \log_{10} depth P-72-2.

RESULTS OF BOTTLE CASTS

(P-72-2)



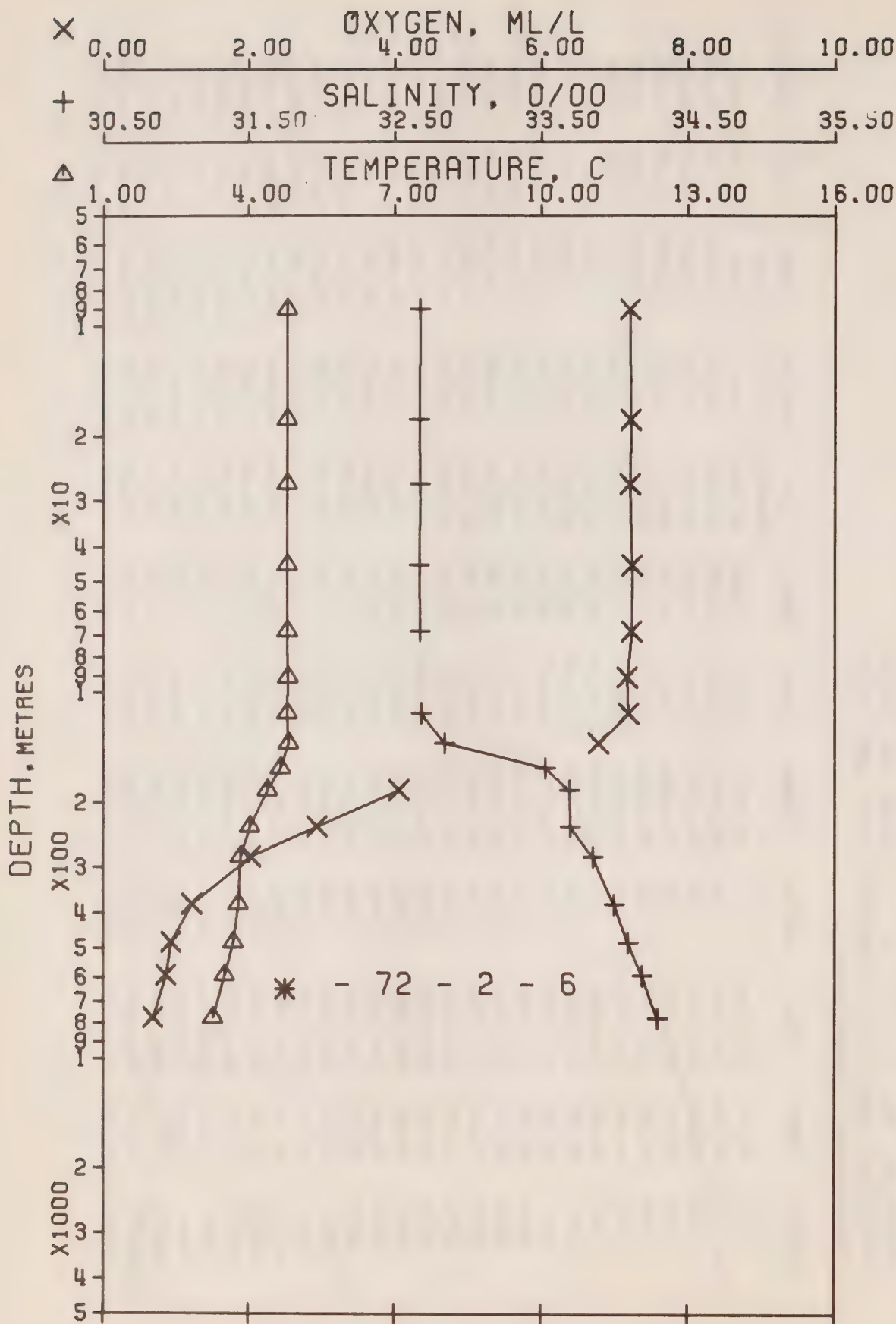
OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 2- 4 DATE 24/ 2/72

POSITION 50-13.0 N, 144-59.0 W GMT 20.9

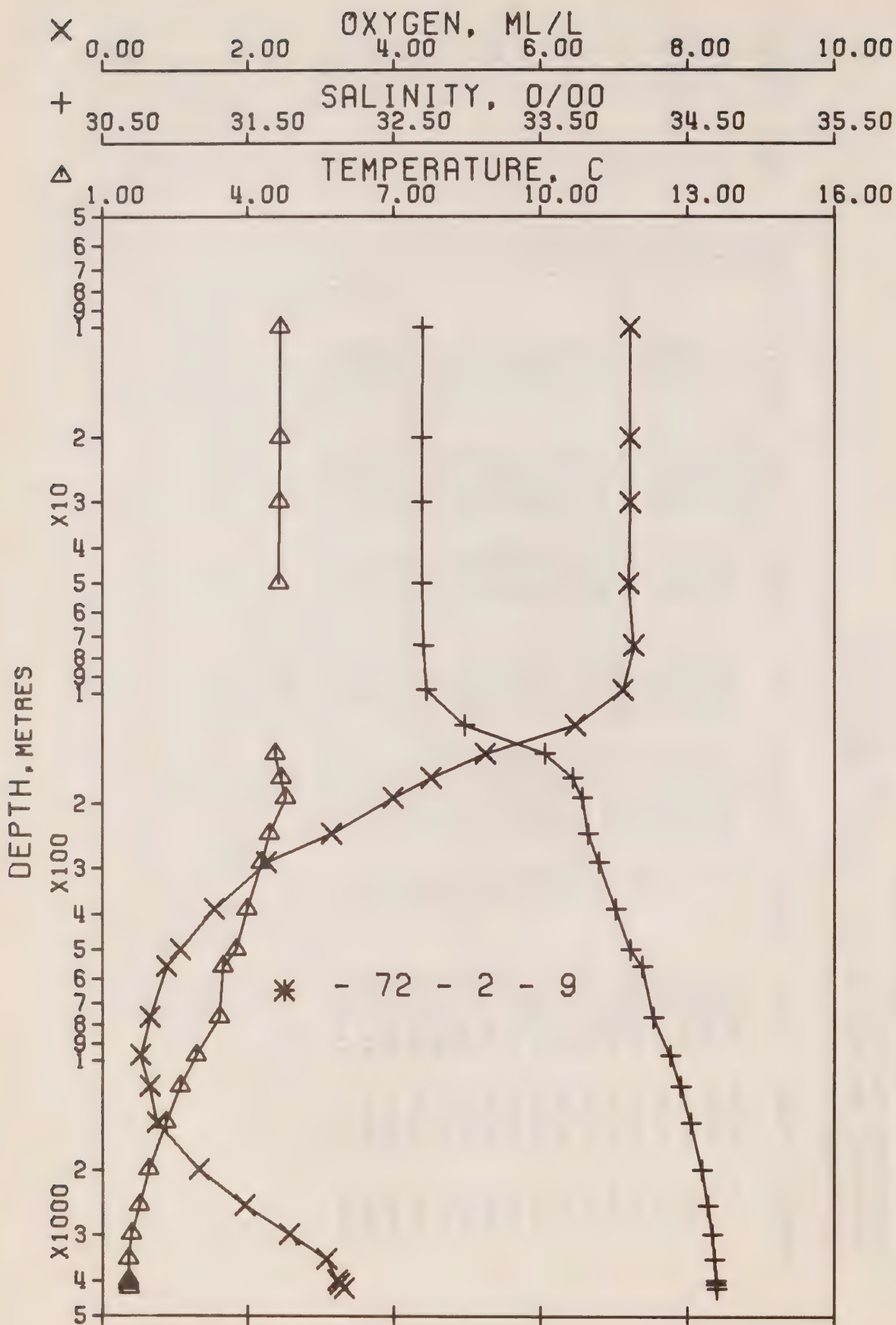
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	5.01	32.696	0	25.875	213.7	5.01	213.5	0.0	0.0	7.29	1468.
10	4.95	32.697	10	25.882	213.1	4.95	212.8	0.21	0.01	7.15	1468.
20	4.94	32.701	20	25.887	212.8	4.94	212.4	0.43	0.04	7.20	1468.
29	4.93	32.697	29	25.884	213.1	4.93	212.5	0.62	0.09	7.24	1468.
48	4.92	32.699	48	25.887	213.0	4.92	212.3	1.03	0.25	7.22	1468.
72	4.93	32.655	72	25.883	213.6	4.92	212.7	1.54	0.57	7.18	1469.
96	4.94	32.698	95	25.884	213.7	4.93	212.5	2.04	0.99	0.0	1469.
119	4.92	32.696	118	25.885	213.8	4.91	212.4	2.54	1.55	7.15	1470.
141	4.58	33.244	140	26.356	169.3	4.57	167.8	2.97	2.11	5.85	1469.
164	4.38	33.608	163	26.665	140.1	4.37	138.4	3.32	2.66	4.73	1469.
186	4.33	33.706	185	26.748	132.5	4.32	130.4	3.62	3.19	4.09	1470.
233	3.93	33.780	231	26.848	123.2	3.91	120.9	4.21	4.45	2.83	1469.
279	3.85	33.850	277	26.912	117.5	3.83	114.9	4.77	5.91	2.04	1469.
379	3.78	33.998	376	27.037	106.4	3.75	103.0	5.88	9.64	1.15	1471.
490	3.67	34.102	486	27.130	98.4	3.64	94.1	7.02	14.68	0.93	1472.
598	3.45	34.216	593	27.242	88.4	3.41	83.4	8.03	20.27	0.82	1473.
802	3.13	34.315	795	27.351	79.1	3.08	72.9	9.72	32.37	0.62	1475.
1005	2.87	34.390	995	27.435	72.0	2.80	65.0	11.25	46.43	0.63	1478.
1207	2.59	34.457	1195	27.513	65.1	2.51	57.5	12.63	62.06	0.56	1480.
1512	2.31	34.524	1495	27.590	58.6	2.21	50.0	14.50	87.99	0.65	1484.
2018	1.96	34.594	1993	27.674	51.6	1.82	41.8	17.27	137.72	1.32	1491.
2525	1.74	34.638	2491	27.726	47.4	1.56	36.6	19.76	195.53	2.00	1499.
3035	1.60	34.666	2991	27.759	45.2	1.37	33.3	22.12	262.21	2.66	1507.
3550	1.53	34.683	3494	27.778	44.4	1.25	31.2	24.41	339.20	3.10	1515.
4070	1.53	34.688	4001	27.782	45.5	1.20	30.4	26.76	430.46	3.26	1524.
4174	1.52	34.695	4103	27.788	45.1	1.18	29.7	27.23	450.35	3.31	1526.
4280	1.53	34.693	4206	27.786	45.7	1.17	29.9	27.71	471.01	3.37	1528.



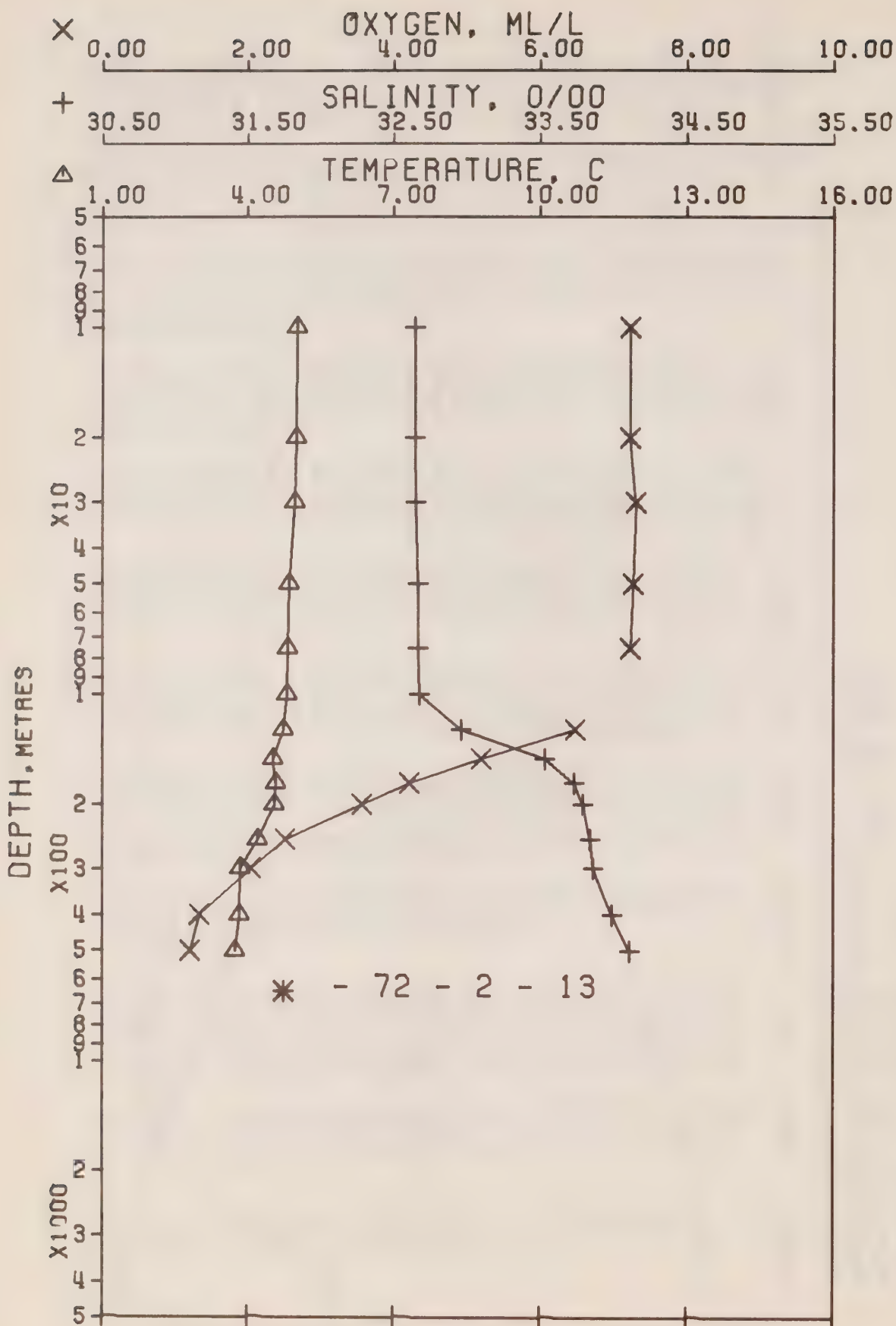
OFFSHORE OCEANOGRAPHY GROUP
 REFERENCE NO. 72- 2- 6 DATE 29/ 2/72
 POSITION 50- 5.0 N, 145- 4.0 W GMT 19.6
 HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	4.79	32.672	0	25.880	213.2	4.79	213.0	0.0	0.0	7.30	1467.
9	4.79	32.673	9	25.881	213.3	4.79	212.9	0.19	0.01	7.21	1467.
18	4.79	32.671	18	25.879	213.5	4.79	213.1	0.39	0.04	7.22	1467.
27	4.79	32.674	27	25.882	213.3	4.79	212.8	0.58	0.08	7.21	1467.
45	4.79	32.671	45	25.879	213.7	4.79	213.1	0.97	0.22	7.24	1468.
68	4.79	32.673	68	25.881	213.8	4.78	212.9	1.46	0.51	7.23	1468.
92	4.81	32.653*	91	25.863	215.7	4.80	214.6	1.96	0.92	7.17	1469.
115	4.80	32.683	114	25.888	213.5	4.79	212.2	2.46	1.44	7.19	1469.
139	4.83	32.845	138	26.013	201.8	4.82	200.3	2.97	2.10	6.78	1470.
162	4.66	33.530	161	26.573	148.9	4.65	147.1	3.37	2.72	0.0	1470.
186	4.39	33.693	185	26.732	134.0	4.38	132.0	3.71	3.32	4.06	1470.
235	4.03	33.700	233	26.775	130.2	4.01	127.9	4.34	4.68	2.94	1469.
283	3.84	33.855	281	26.917	117.1	3.82	114.4	4.94	6.26	2.03	1469.
383	3.79	34.000	380	27.037	106.5	3.76	102.9	6.04	10.01	1.22	1471.
485	3.68	34.093	481	27.122	99.2	3.65	94.8	7.09	14.64	0.93	1472.
598	3.51	34.189	593	27.215	91.0	3.47	85.9	8.16	20.57	0.86	1473.
780	3.27	34.294	773	27.322	82.0	3.22	75.7	9.73	31.56	0.68	1476.



OFFSHORE OCEANOGRAPHY GROUP
REFERENCE NO. 72- 2- 9 DATE 6/ 3/72
POSITION 50- 4.0 N, 145- 3.0 W GMT 23.9
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
3	4.70	32.702	3	25.913	210.1	4.70	209.8	0.0	0.0	7.22	1467.
10	4.68	32.700	10	25.914	210.1	4.68	209.8	0.15	0.01	7.22	1467.
20	4.67	32.695	20	25.911	210.5	4.67	210.1	0.36	0.04	7.22	1467.
30	4.66	32.696	30	25.913	210.4	4.66	209.9	0.57	0.09	7.22	1467.
50	4.65	32.695	50	25.913	210.5	4.65	209.8	1.00	0.27	7.20	1467.
74	4.60*	32.706	74	25.927	209.4	4.60	208.6	1.50	0.59	7.27	1468.
99	4.56*	32.724	98	25.946	207.8	4.55	206.6	2.01	1.04	7.12	1468.
123	4.53*	32.983	122	26.154	188.2	4.53	186.9	2.49	1.59	6.47	1468.
147	4.57	33.532	146	26.585	147.6	4.56	146.0	2.90	2.14	5.25	1470.
171	4.69	33.718	170	26.719	135.3	4.68	133.2	3.24	2.69	4.51	1471.
194	4.78	33.785	193	26.762	131.4	4.77	129.2	3.54	3.26	3.99	1472.
243	4.45	33.826	241	26.831	125.2	4.43	122.5	4.16	4.64	3.15	1471.
291	4.28	33.898	289	26.906	118.5	4.26	115.4	4.75	6.25	2.26	1471.
392	3.99	34.013	389	27.027	107.7	3.96	103.8	5.89	10.21	1.54	1472.
503	3.76	34.114	499	27.131	98.6	3.72	94.0	7.04	15.47	1.07	1473.
561	3.49	34.196	556	27.223	90.1	3.45	85.3	7.58	18.41	0.88	1473.
771	3.42	34.269	764	27.287	85.5	3.37	79.0	9.39	30.76	0.65	1476.
981	2.94	34.385	972	27.425	73.0	2.87	65.9	11.06	45.64	0.52	1478.
1190	2.60	34.457	1178	27.512	65.2	2.52	57.6	12.49	61.50	0.65	1480.
1502	2.30	34.526	1485	27.592	58.4	2.20	49.8	14.40	87.70	0.75	1484.
2017	1.94	34.602	1992	27.682	50.8	1.80	41.0	17.18	137.57	1.33	1491.
2527	1.75	34.639	2493	27.726	47.5	1.57	36.6	19.67	195.39	1.96	1499.
3036	1.59	34.672	2992	27.765	44.6	1.36	32.7	22.01	261.60	2.57	1507.
3546	1.53	34.687	3490	27.781	44.1	1.25	30.8	24.26	337.09	3.08	1515.
4056	1.52	34.696	3988	27.789	44.8	1.19	29.7	26.52	424.77	3.23	1524.
4159	1.52	34.695	4088	27.788	45.0	1.18	29.7	26.98	444.06	3.26	1526.
4262	1.54	34.700	4188	27.791	45.3	1.19	29.4	27.45	463.97	3.32	1527.



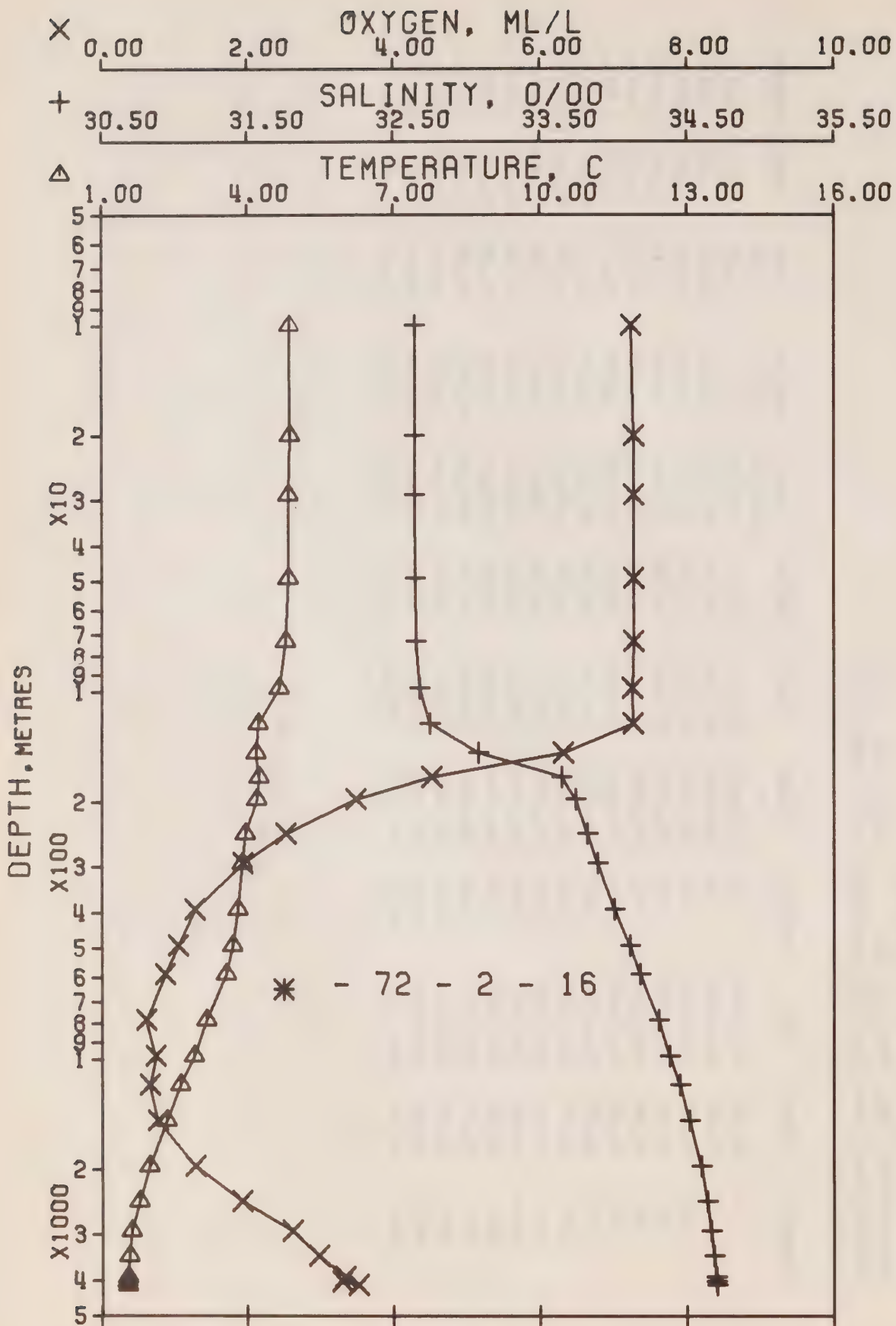
OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 2- 13 DATE 14/ 3/72

POSITION 50- 0.0 N. 144-58.0 W GMT 19.1

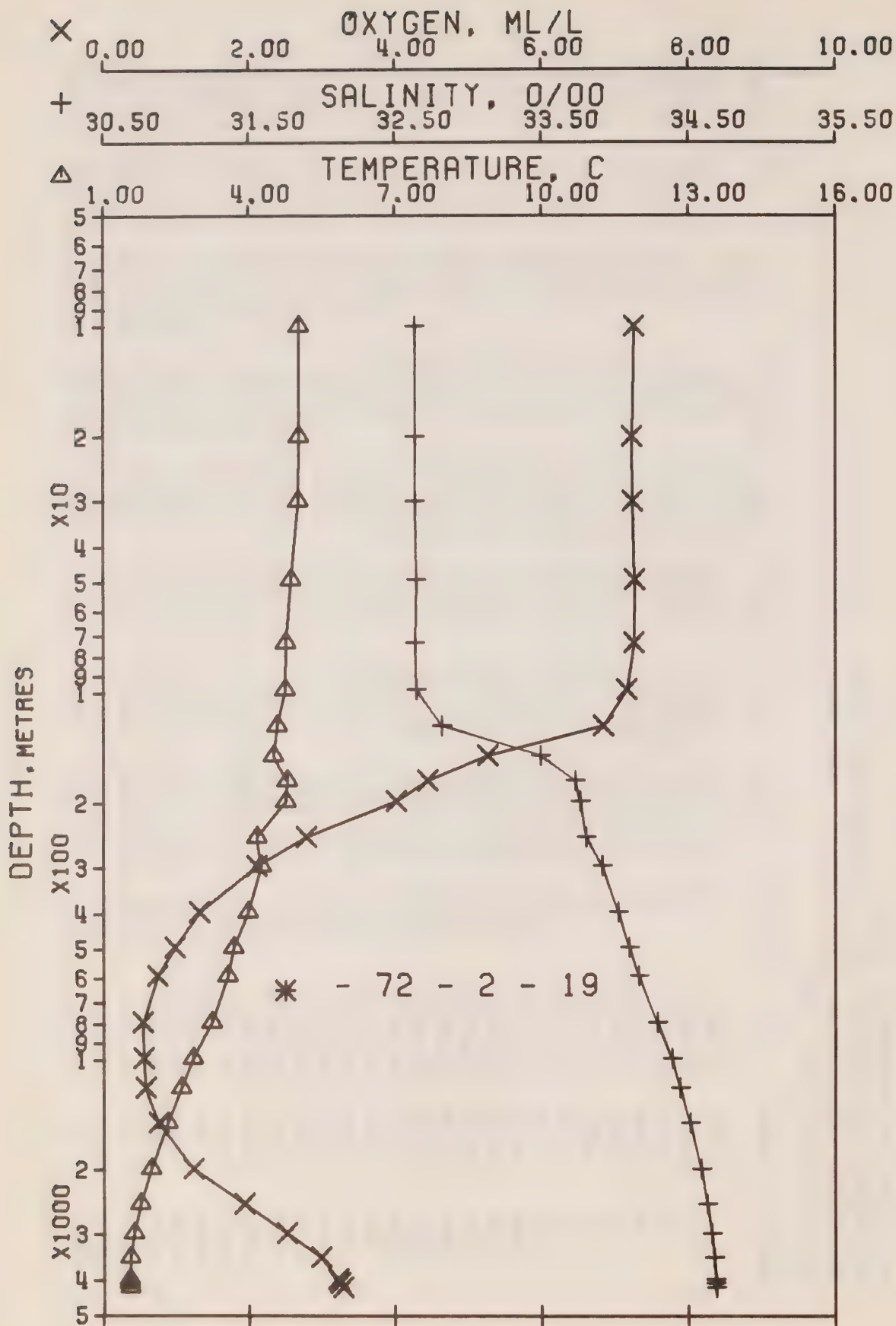
HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	5.01	32.650	0	25.838	217.2	5.01	217.0	0.0	0.0	7.40	1468.
10	5.02	32.650	10	25.837	217.4	5.02	217.1	0.22	0.01	7.23	1468.
20	5.00	32.652	20	25.841	217.1	5.00	216.7	0.44	0.04	7.23	1468.
30	4.98	32.654	30	25.845	216.8	4.98	216.3	0.66	0.10	7.31	1468.
50	4.86	32.668	50	25.869	214.7	4.86	214.0	1.09	0.28	7.27	1468.
75	4.82	32.669	75	25.874	214.4	4.81	213.5	1.63	0.63	7.23	1468.
101	4.81	32.679	100	25.883	213.8	4.80	212.6	2.17	1.11	0.0	1469.
126	4.73	32.965	125	26.118	191.7	4.72	190.3	2.69	1.71	6.48	1469.
151	4.52	33.536	150	26.593	146.8	4.51	145.2	3.11	2.31	5.20	1470.
176	4.58	33.737	175	26.746	132.7	4.57	130.7	3.46	2.89	4.22	1470.
201	4.56	33.794	200	26.794	128.4	4.54	126.2	3.79	3.52	3.57	1471.
251	4.21	33.844	249	26.870	121.4	4.19	118.8	4.40	4.94	2.52	1470.
301	3.85	33.863	299	26.922	116.7	3.83	113.9	5.00	6.62	2.05	1470.
403	3.83	33.995	400	27.029	107.4	3.80	103.6	6.14	10.72	1.34	1471.
507	3.74	34.114	503	27.133	98.4	3.70	93.8	7.21	15.67	1.21	1473.



OFFSHORE OCEANOGRAPHY GROUP
 REFERENCE NO. 72- 2- 16 DATE 20/ 3/72
 POSITION 50-11.0 N. 145- 6.0 W GMT 19.3
 HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	4.88	32.652	0	25.854	215.6	4.88	215.4	0.0	0.0	7.37	1467.
10	4.87	32.651	10	25.855	215.7	4.87	215.4	0.22	0.01	7.24	1468.
20	4.88	32.652	20	25.854	215.8	4.88	215.4	0.43	0.04	7.28	1468.
29	4.86	32.651	29	25.856	215.8	4.86	215.3	0.63	0.09	7.28	1468.
49	4.85	32.655	49	25.860	215.5	4.85	214.9	1.06	0.27	7.28	1468.
73	4.80	32.659	73	25.869	214.9	4.79	214.1	1.58	0.59	7.28	1468.
99	4.66	32.683	98	25.903	211.9	4.65	210.8	2.12	1.07	7.26	1468.
123	4.22	32.754	122	26.005	202.2	4.21	201.1	2.63	1.64	7.27	1467.
148	4.18	33.085	147	26.271	177.2	4.17	175.8	3.11	2.30	6.32	1467.
172	4.24	33.650	171	26.713	135.6	4.23	133.8	3.49	2.91	4.53	1469.
197	4.11	33.746	196	26.803	127.2	4.10	125.3	3.81	3.53	3.49	1469.
246	3.96	33.827	244	26.883	120.1	3.94	117.7	4.41	4.87	2.53	1469.
295	3.89	33.897	293	26.945	114.5	3.87	111.7	4.98	6.47	1.94	1470.
394	3.80	34.011	391	27.045	105.9	3.77	102.2	6.07	10.29	1.28	1471.
494	3.70	34.114	490	27.137	97.8	3.67	93.4	7.09	14.89	1.05	1472.
592	3.56	34.186	587	27.208	91.8	3.52	86.7	8.02	20.03	0.87	1474.
790	3.16	34.309	783	27.344	79.7	3.11	73.6	9.71	31.94	0.61	1475.
989	2.90	34.386	979	27.429	72.5	2.83	65.5	11.21	45.59	0.74	1478.
1186	2.62	34.454	1174	27.508	65.6	2.54	57.9	12.57	60.66	0.66	1480.
1482	2.34	34.521	1466	27.585	59.0	2.24	50.5	14.41	85.61	0.77	1483.
1977	1.97	34.599	1953	27.677	51.2	1.83	41.6	17.11	133.22	1.29	1490.
2474	1.76	34.638	2441	27.725	47.6	1.58	36.8	19.55	188.59	1.93	1498.
2974	1.60	34.666	2931	27.759	45.0	1.38	33.3	21.85	252.54	2.62	1506.
3479	1.55	34.683	3425	27.777	44.5	1.28	31.4	24.11	326.73	2.98	1514.
3991	1.52	34.698	3924	27.791	44.4	1.20	29.7	26.38	413.38	3.34	1523.
4093	1.51	34.701	4024	27.794	44.3	1.18	29.3	26.84	432.13	3.30	1524.
4197	1.53	34.706	4125	27.796	44.6	1.18	28.9	27.30	451.60	3.52	1526.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 2- 19 DATE 28/ 3/72

POSITION 49-59.0 N, 145- 1.0 W GMT 19.0

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	5.07	32.637	0	25.822	218.8	5.07	218.6	0.0	0.0	7.34	1468.
10	5.04	32.640	10	25.827	218.4	5.04	218.1	0.22	0.01	7.26	1468.
20	5.04	32.638	20	25.826	218.6	5.04	218.2	0.44	0.05	7.23	1468.
30	5.02	32.638	30	25.828	218.5	5.02	218.0	0.66	0.10	7.24	1468.
49	4.87	32.649	49	25.853	216.3	4.87	215.5	1.08	0.27	7.27	1468.
73	4.77	32.641	73	25.858	216.0	4.76	215.1	1.60	0.60	7.26	1468.
99	4.75	32.651	98	25.868	215.2	4.74	214.1	2.14	1.08	7.16	1468.
124	4.59	32.826	123	26.023	200.6	4.58	199.3	2.67	1.68	6.84	1468.
149	4.51	33.494	148	26.561	149.9	4.50	148.2	3.12	2.29	5.27	1469.
174	4.80	33.731	173	26.717	135.5	4.79	133.4	3.47	2.87	4.45	1471.
198	4.76	33.767	197	26.750	132.6	4.74	130.2	3.79	3.48	4.02	1472.
249	4.16	33.806	247	26.846	123.7	4.14	121.2	4.44	4.96	2.79	1470.
298	4.26	33.914	296	26.921	117.1	4.24	114.0	5.03	6.61	2.11	1471.
398	3.99	34.025	395	27.037	106.8	3.96	102.9	6.15	10.57	1.32	1472.
498	3.69	34.098	494	27.125	99.0	3.65	94.5	7.17	15.26	0.98	1472.
594	3.56	34.163	589	27.190	93.5	3.52	88.4	8.09	20.39	0.74	1474.
796	3.23	34.290	789	27.322	82.0	3.17	75.7	9.87	32.95	0.54	1476.
999	2.84	34.392	989	27.439	71.5	2.77	64.5	11.41	47.06	0.55	1477.
1200	2.61	34.444	1188	27.501	66.3	2.53	58.6	12.79	62.56	0.58	1480.
1501	2.32	34.515	1485	27.582	59.4	2.22	50.8	14.68	88.55	0.76	1484.
2004	1.97	34.590	1980	27.670	51.9	1.83	42.2	17.45	138.09	1.24	1491.
2508	1.75	34.632	2474	27.721	48.0	1.57	37.2	19.95	195.52	1.94	1498.
3013	1.61	34.658	2969	27.752	45.8	1.39	33.9	22.31	261.87	2.52	1506.
3521	1.54	34.676	3466	27.772	45.0	1.27	31.7	24.61	338.42	2.99	1515.
4035	1.53	34.683	3967	27.778	45.7	1.20	30.8	26.94	428.22	3.22	1523.
4138	1.52	34.686	4068	27.781	45.6	1.18	30.5	27.41	447.94	3.25	1525.
4242	1.54	34.691	4169	27.784	45.9	1.19	30.1	27.88	468.20	3.29	1527.

RESULTS OF STD CASTS

(P-72-2)

OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 2- I

DATE 18/ 2/72

POSITION 48-33.0N, 125-33.0W

GMT 23.7

RESULTS OF STP CAST

16 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.87	31.25	0	24.51	343.2	0.0	0.0	1474.
10	6.85	31.37	10	24.61	334.6	0.34	0.02	1474.
20	6.84	31.57	20	24.77	319.5	0.67	0.07	1474.
30	6.93	31.81	30	24.94	302.7	0.98	0.15	1475.
50	7.15	32.44	50	25.41	258.7	1.55	0.38	1477.
75	7.50	32.95	75	25.76	225.6	2.13	0.74	1480.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	6.87	31.25	47.	7.12	32.20
6.	6.87	31.25	50.	7.15	32.44
15.	6.82	31.51	52.	7.37	32.72
21.	6.85	31.58	55.	7.39	32.85
23.	6.90	31.71	57.	7.46	32.85
35.	6.95	31.88	64.	7.49	32.89
36.	7.01	31.92	71.	7.49	32.94
38.	7.08	32.05	75.	7.50	32.95

OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 2- 2

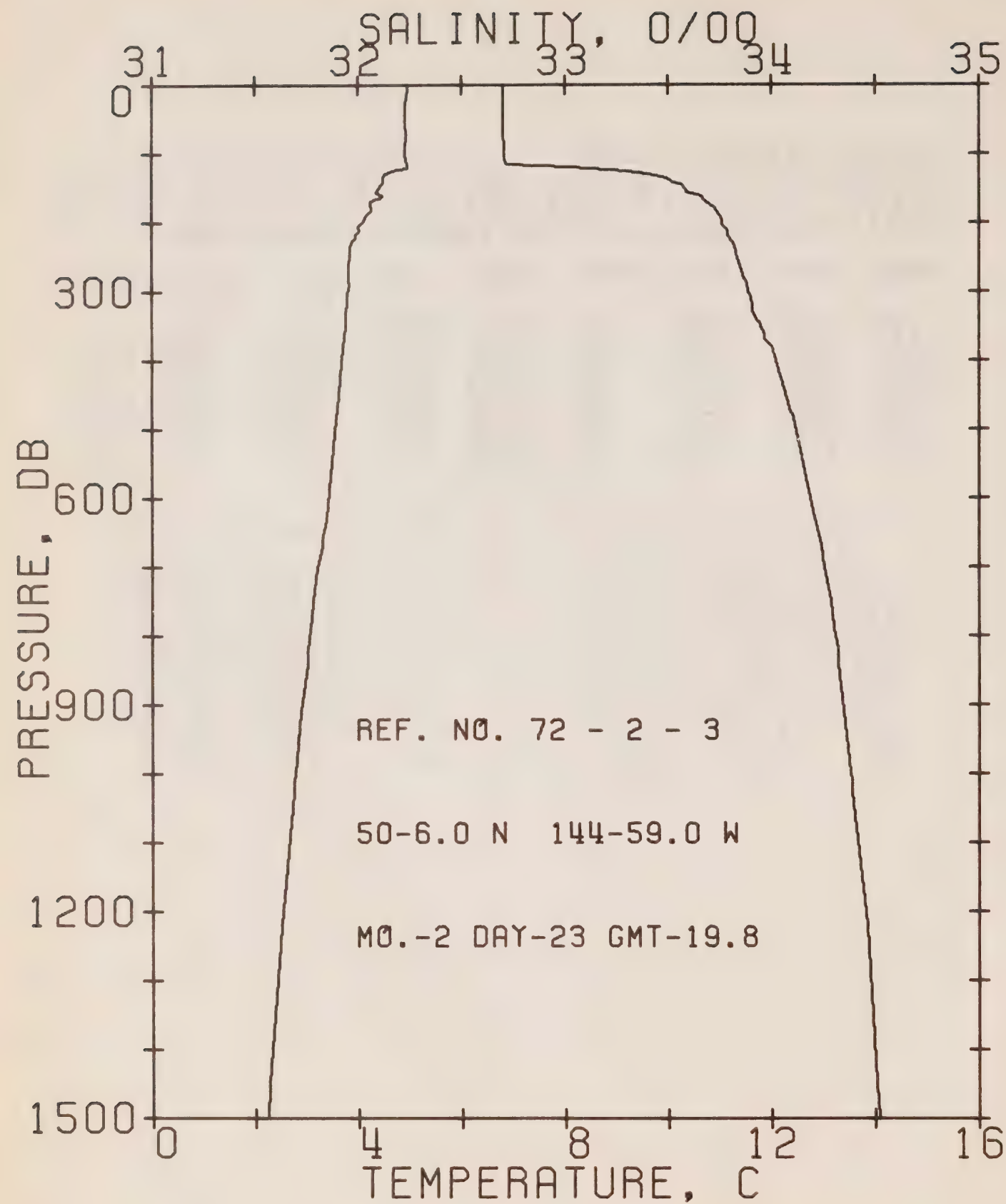
DATE 19/ 2/72

POSITION 48-38.0N, 126- 0.0W GMT 2.3

RESULTS OF STP CAST 19 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.85	31.60	0	24.79	316.8	0.0	0.0	1474.
10	6.84	31.60	10	24.79	317.0	0.32	0.02	1474.
20	6.82	31.60	20	24.79	316.8	0.63	0.06	1474.
30	6.81	31.64	30	24.83	313.9	0.95	0.15	1474.
50	7.10	32.36	50	25.35	264.0	1.55	0.39	1477.
75	7.39	32.87	75	25.71	230.1	2.17	0.78	1479.
100	7.42	33.08	99	25.87	215.2	2.72	1.27	1480.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	6.85	31.60	55.	7.25	32.48
18.	6.84	31.60	60.	7.25	32.54
20.	6.82	31.60	67.	7.38	32.79
28.	6.81	31.62	71.	7.39	32.83
32.	6.82	31.66	79.	7.40	32.91
37.	6.86	31.78	81.	7.43	32.91
45.	6.87	31.81	85.	7.44	32.98
48.	6.88	32.04	90.	7.43	33.02
50.	7.10	32.36	100.	7.42	33.08
54.	7.24	32.48			



OFFSHORE OCEANOGRAPHY GROUP

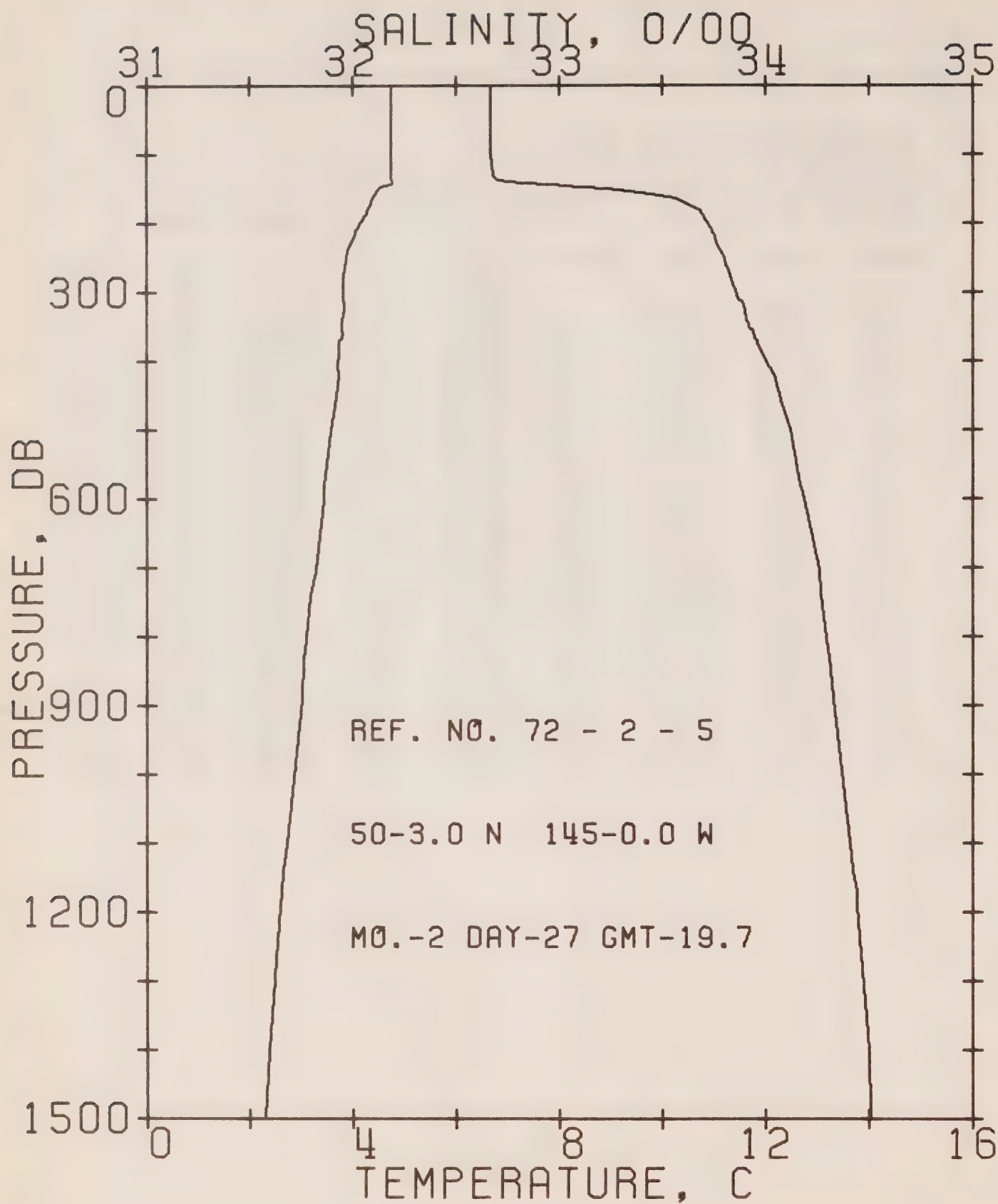
REFERENCE NO. 72- 2- 3

DATE 23/ 2/72

POSITION 50- 6.0N, 144-59.0W GMT 19.8

RESULTS OF STP CAST 73 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	4.96	32.70	0	25.88	212.7	0.0	0.0	1468.
10	4.95	32.70	10	25.88	212.9	0.21	0.01	1468.
20	4.94	32.70	20	25.89	212.8	0.43	0.04	1468.
30	4.92	32.70	30	25.89	212.7	0.64	0.10	1468.
50	4.92	32.70	50	25.89	212.9	1.06	0.27	1468.
75	4.93	32.70	75	25.89	213.0	1.60	0.61	1469.
100	4.92	32.71	99	25.90	212.6	2.13	1.08	1469.
125	4.65	33.30	124	26.39	165.7	2.64	1.67	1469.
150	4.39	33.57	149	26.64	142.6	3.02	2.20	1469.
175	4.24	33.70	174	26.76	131.5	3.36	2.77	1469.
200	4.08	33.76	199	26.82	126.0	3.68	3.38	1469.
225	3.91	33.80	223	26.87	121.4	3.99	4.05	1469.
250	3.83	33.83	248	26.90	118.3	4.29	4.77	1469.
300	3.80	33.89	298	26.95	114.3	4.87	6.40	1469.
400	3.68	34.02	397	27.06	104.0	5.97	10.30	1471.
500	3.55	34.12	496	27.16	95.9	6.97	14.87	1472.
600	3.42	34.19	595	27.22	90.1	7.90	20.07	1473.
800	3.06	34.31	793	27.35	79.0	9.58	32.02	1475.
1000	2.78	34.38	990	27.43	71.8	11.08	45.78	1477.
1200	2.53	34.45	1188	27.52	64.7	12.44	61.02	1480.
1500	2.24	34.52	1483	27.59	58.1	14.28	86.19	1483.



OFFSHORE OCEANOGRAPHY GROUP

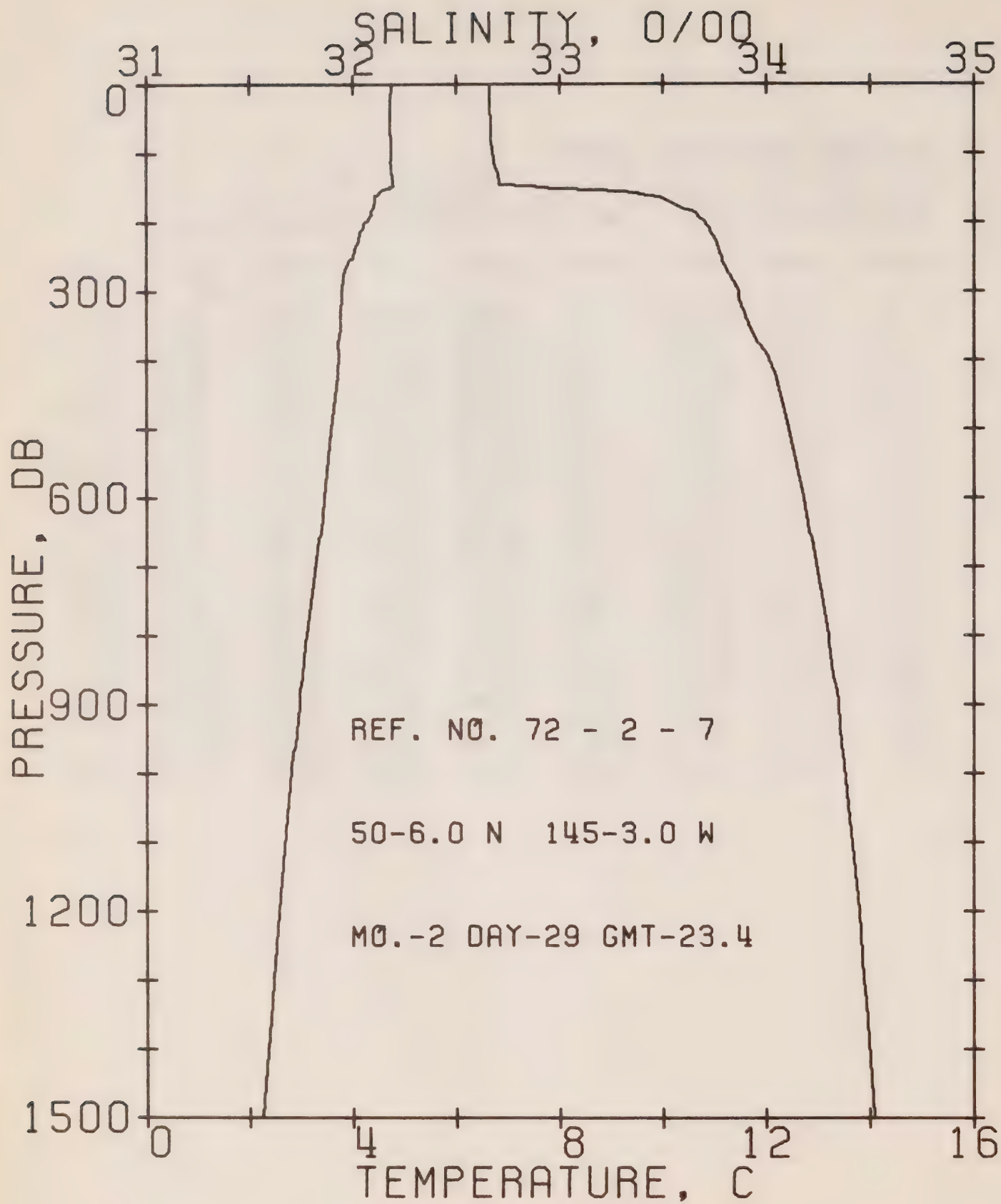
REFERENCE NO. 72- 2- 5

DATE 27/ 2/72

POSITION 50- 3.0N, 145- 0.0W GMT 19.7

RESULTS OF STP CAST 57 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	4.74	32.67	0	25.88	212.6	0.0	0.0	1467.
10	4.74	32.67	10	25.88	212.9	0.21	0.01	1467.
20	4.74	32.67	20	25.88	213.1	0.43	0.04	1467.
30	4.74	32.67	30	25.88	213.2	0.64	0.10	1467.
50	4.74	32.67	50	25.88	213.4	1.07	0.27	1468.
75	4.75	32.67	75	25.88	213.6	1.60	0.61	1468.
100	4.75	32.67	99	25.88	213.8	2.13	1.09	1468.
125	4.75	32.68	124	25.89	213.5	2.67	1.70	1469.
150	4.52	33.24	149	26.36	169.0	3.18	2.41	1469.
175	4.32	33.64	174	26.69	137.4	3.55	3.03	1469.
200	4.14	33.72	199	26.78	129.5	3.88	3.66	1469.
225	4.00	33.75	223	26.82	125.8	4.20	4.35	1469.
250	3.87	33.80	248	26.87	121.2	4.51	5.10	1469.
300	3.81	33.86	298	26.92	116.6	5.10	6.76	1469.
400	3.72	34.00	397	27.05	105.7	6.22	10.73	1471.
500	3.57	34.12	496	27.15	96.1	7.23	15.35	1472.
600	3.45	34.19	595	27.22	90.3	8.16	20.57	1473.
800	3.10	34.29	793	27.34	80.5	9.86	32.62	1475.
1000	2.85	34.37	990	27.42	73.1	11.39	46.66	1477.
1200	2.57	34.44	1188	27.50	65.9	12.78	62.19	1480.
1500	2.28	34.51	1484	27.58	59.2	14.64	87.75	1484.



OFFSHORE OCEANOGRAPHY GROUP

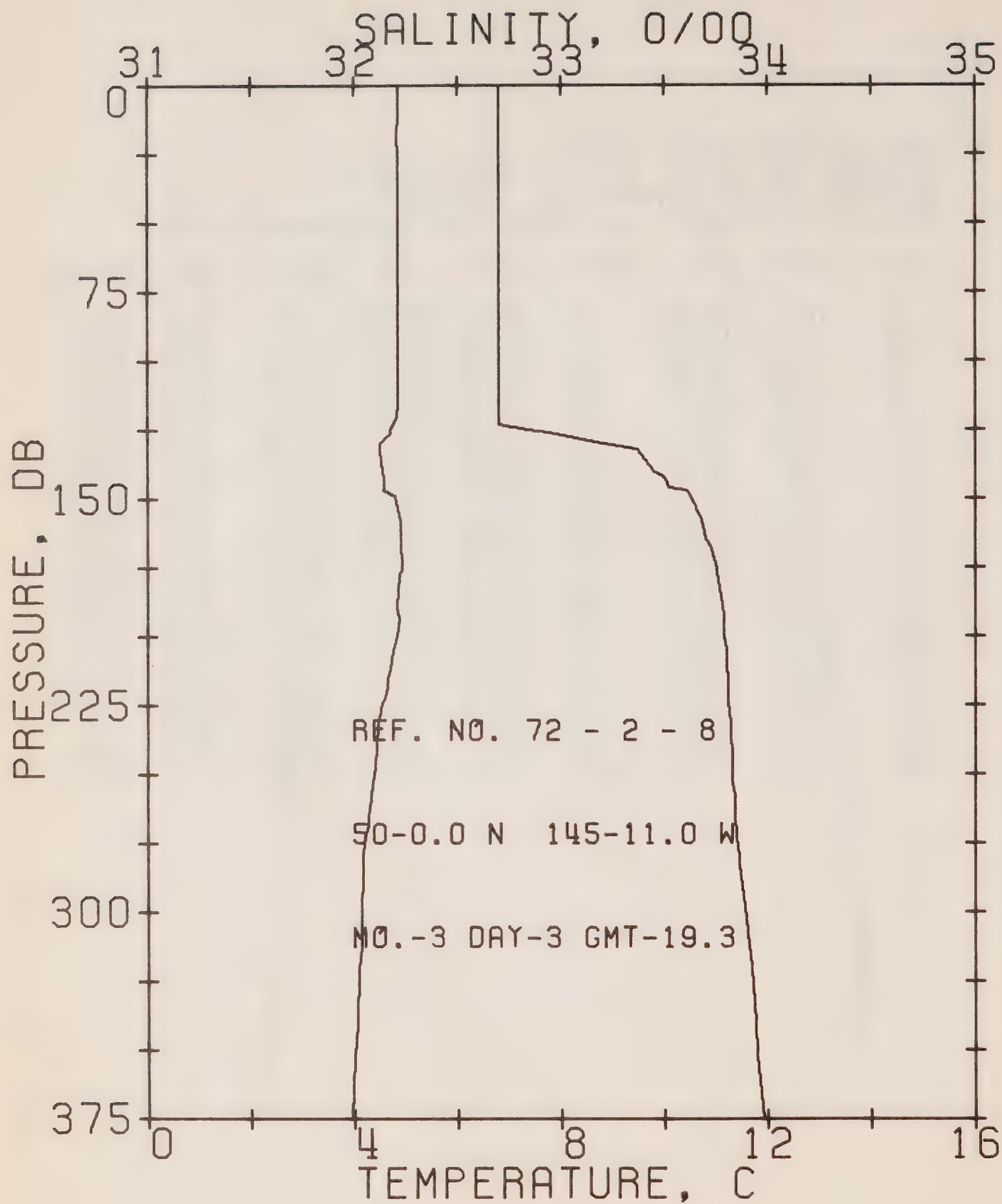
REFERENCE NO. 72- 2- 7

DATE 29/ 2/72

POSITION 50- 6.0N. 145- 3.0W GMT 23.4

RESULTS OF STP CAST 64 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	4.74	32.66	0	25.88	213.4	0.0	0.0	1467.
10	4.74	32.66	10	25.88	213.7	0.21	0.01	1467.
20	4.73	32.66	20	25.88	213.7	0.43	0.04	1467.
30	4.72	32.66	30	25.88	213.6	0.64	0.10	1467.
50	4.72	32.67	50	25.88	213.4	1.07	0.27	1468.
75	4.73	32.67	75	25.88	213.4	1.60	0.61	1468.
100	4.74	32.68	99	25.89	213.2	2.13	1.09	1468.
125	4.75	32.69	124	25.90	212.4	2.67	1.70	1469.
150	4.72	32.91	149	26.08	195.9	3.19	2.44	1470.
175	4.41	33.56	174	26.62	144.1	3.59	3.09	1469.
200	4.27	33.70	199	26.75	132.4	3.93	3.75	1470.
225	4.10	33.75	223	26.80	127.4	4.26	4.45	1469.
250	3.99	33.78	248	26.84	123.9	4.57	5.21	1469.
300	3.78	33.87	298	26.93	115.4	5.17	6.88	1469.
400	3.72	34.01	397	27.05	104.8	6.28	10.85	1471.
500	3.57	34.11	496	27.15	96.8	7.29	15.45	1472.
600	3.43	34.18	595	27.22	90.9	8.23	20.70	1473.
800	3.09	34.30	793	27.34	79.8	9.94	32.81	1475.
1000	2.80	34.38	990	27.43	72.0	11.45	46.70	1477.
1200	2.56	34.45	1188	27.51	65.3	12.83	62.02	1480.
1500	2.25	34.52	1484	27.59	58.2	14.68	87.47	1483.



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REFERENCE NO. 72- 2- 8

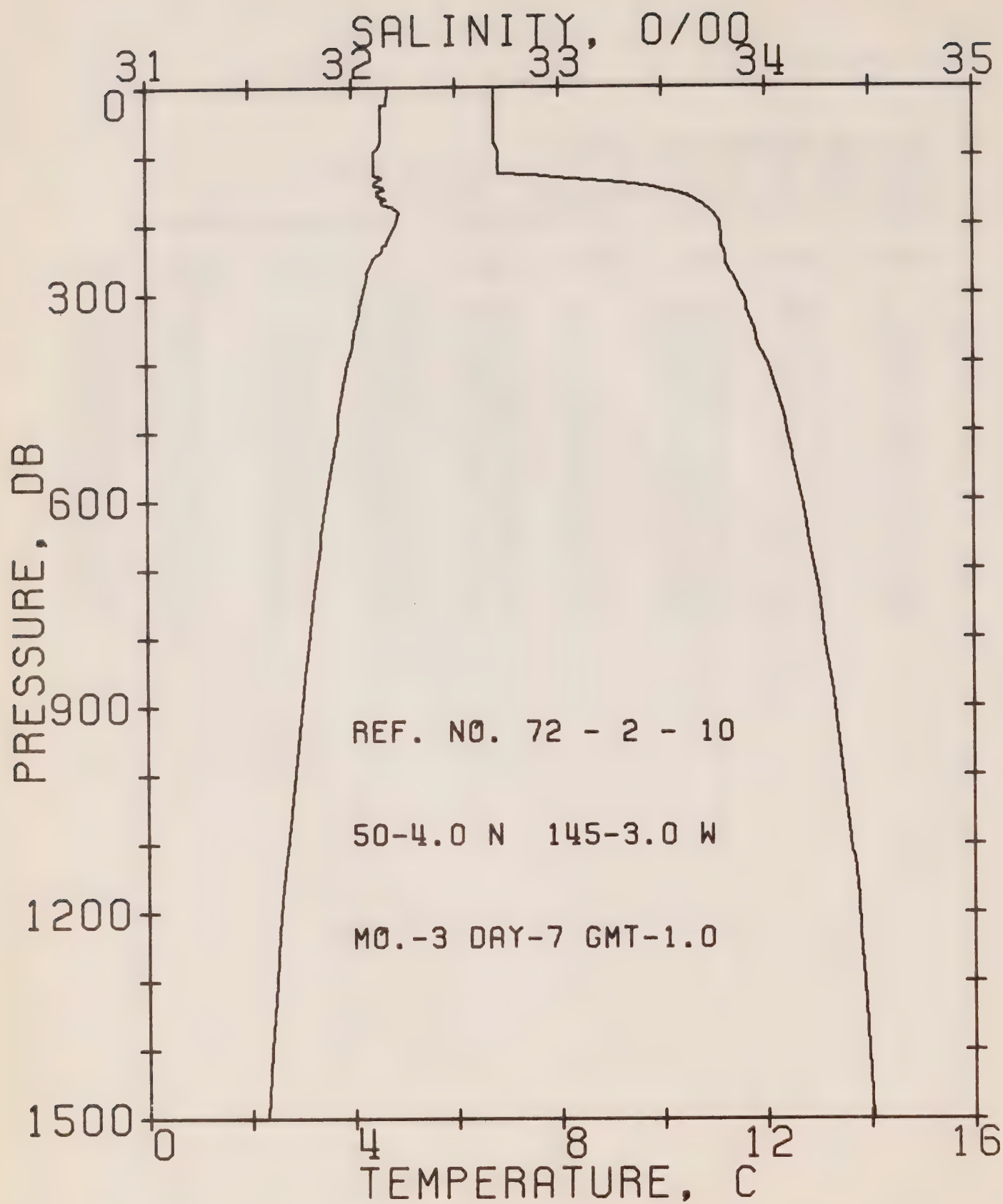
DATE 3/ 3/72

POSITION 50- 0.0N, 145-11.0W

GMT 19.3

RESULTS OF STP CAST 49 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	4.86	32.70	0	25.89	211.6	0.0	0.0	1467.
10	4.85	32.70	10	25.90	211.8	0.21	0.01	1467.
20	4.84	32.70	20	25.90	211.8	0.42	0.04	1468.
30	4.85	32.70	30	25.90	212.0	0.64	0.10	1468.
50	4.85	32.70	50	25.90	212.2	1.06	0.27	1468.
75	4.85	32.70	75	25.90	212.4	1.59	0.61	1469.
100	4.85	32.70	99	25.90	212.6	2.12	1.08	1469.
125	4.70	32.84	124	26.02	200.8	2.65	1.69	1469.
150	4.82	33.64	149	26.64	142.6	3.05	2.25	1471.
175	4.93	33.75	174	26.72	135.7	3.40	2.82	1472.
200	4.83	33.79	199	26.76	131.7	3.73	3.46	1472.
225	4.52	33.81	223	26.81	127.0	4.05	4.16	1471.
250	4.37	33.83	248	26.84	124.2	4.37	4.91	1471.
300	4.14	33.89	298	26.92	117.4	4.97	6.61	1471.



OFFSHORE OCEANOGRAPHY GROUP

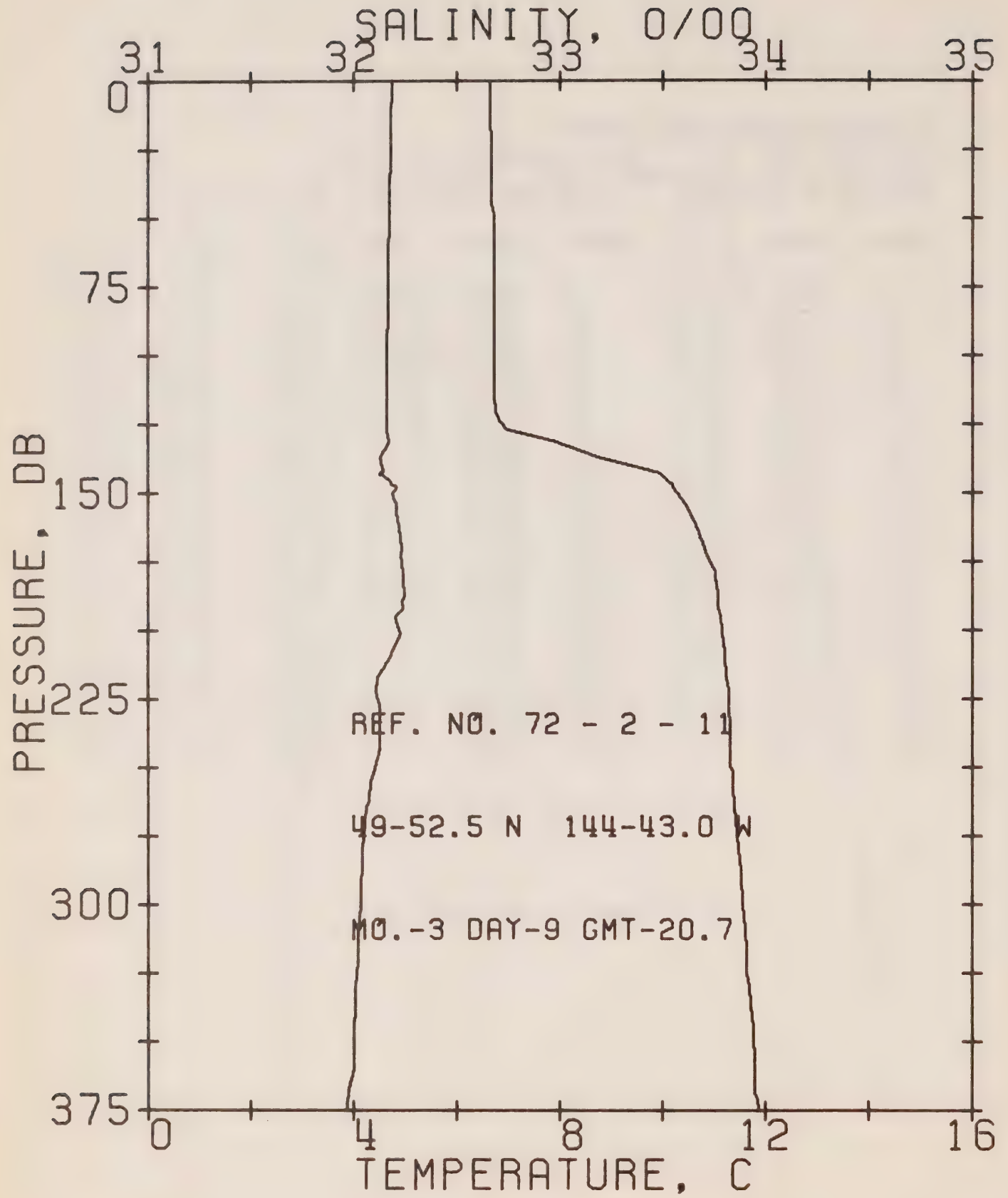
REFERENCE NO. 72- 2- 10

DATE 7/ 3/72

POSITION 50- 4.0N, 145- 3.0W GMT 1.0

RESULTS OF STP CAST 69 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	4.68	32.69	0	25.91	210.5	0.0	0.0	1467.
10	4.68	32.69	10	25.91	210.8	0.21	0.01	1467.
20	4.67	32.69	20	25.91	210.8	0.42	0.04	1467.
30	4.57	32.69	30	25.92	209.8	0.63	0.10	1467.
50	4.56	32.69	50	25.92	209.9	1.05	0.27	1467.
75	4.55	32.69	75	25.92	210.1	1.58	0.60	1467.
100	4.44	32.71	99	25.95	207.6	2.10	1.07	1467.
125	4.42	32.71	124	25.95	207.7	2.62	1.66	1468.
150	4.65	33.50	149	26.55	150.9	3.05	2.27	1470.
175	4.80	33.71	174	26.70	136.8	3.40	2.85	1471.
200	4.84	33.78	199	26.75	132.4	3.74	3.49	1472.
225	4.67	33.79	223	26.78	130.1	4.07	4.20	1472.
250	4.39	33.81	248	26.82	125.9	4.39	4.98	1471.
300	4.21	33.88	298	26.90	118.9	5.00	6.70	1471.
400	3.90	34.01	397	27.03	107.0	6.14	10.73	1472.
500	3.70	34.10	496	27.13	99.0	7.16	15.41	1473.
600	3.45	34.17	595	27.21	91.7	8.11	20.74	1473.
800	3.13	34.28	793	27.32	81.9	9.84	33.04	1475.
1000	2.85	34.37	990	27.42	73.4	11.39	47.20	1477.
1200	2.57	34.44	1188	27.50	65.8	12.78	62.73	1480.
1500	2.29	34.51	1484	27.58	59.4	14.65	88.48	1484.



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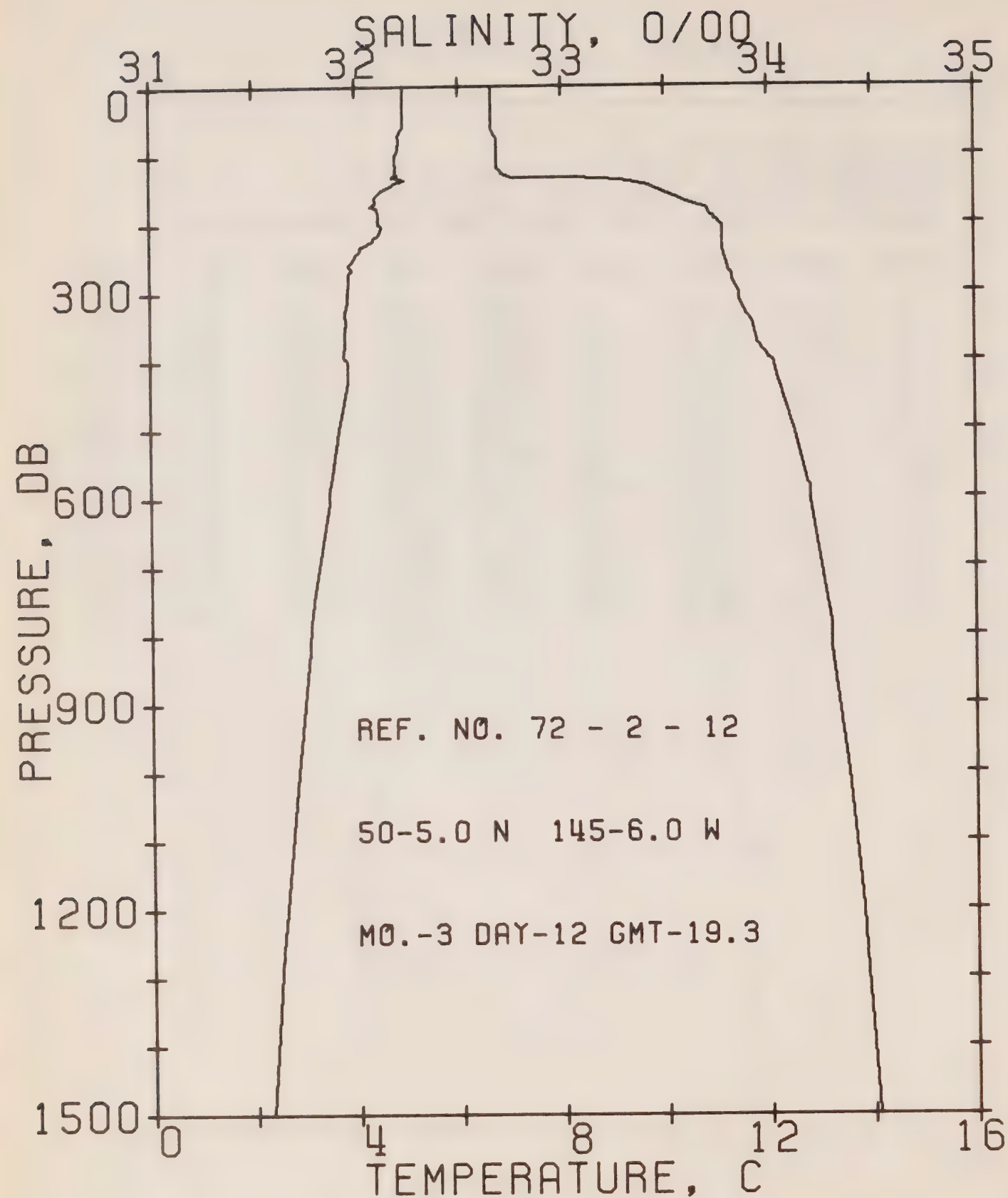
REFERENCE NO. 72- 2- 11

DATE 9/ 3/72

POSITION 49-52.5N, 144-43.0W GMT 20.7

RESULTS OF STP CAST 61 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	4.75	32.66	0	25.87	213.5	0.0	0.0	1467.
10	4.74	32.66	10	25.88	213.7	0.21	0.01	1467.
20	4.72	32.67	20	25.88	213.1	0.43	0.04	1467.
30	4.71	32.67	30	25.89	212.8	0.64	0.10	1467.
50	4.68	32.68	50	25.90	211.9	1.07	0.27	1467.
75	4.67	32.68	75	25.90	212.0	1.60	0.61	1468.
100	4.66	32.68	99	25.90	212.1	2.13	1.08	1468.
125	4.65	32.72	124	25.93	209.3	2.65	1.69	1469.
150	4.75	33.57	149	26.60	146.7	3.09	2.29	1471.
175	4.94	33.73	174	26.70	137.3	3.44	2.88	1472.
200	4.88	33.79	199	26.75	132.4	3.78	3.52	1472.
225	4.49	33.82	223	26.82	126.0	4.10	4.21	1471.
250	4.40	33.83	248	26.84	124.4	4.41	4.98	1471.
300	4.13	33.89	298	26.92	117.6	5.01	6.66	1471.



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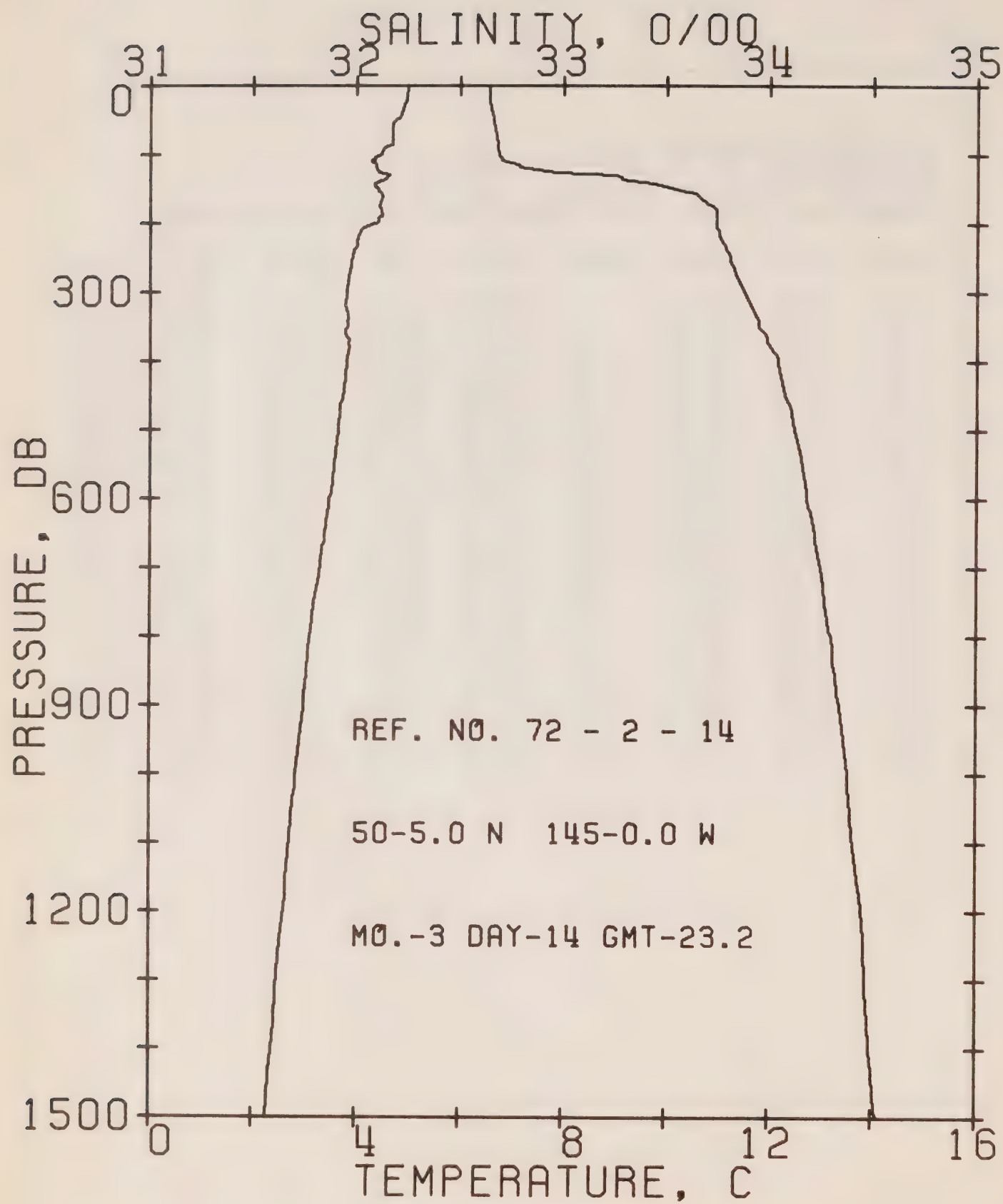
REFERENCE NO. 72- 2- 12

DATE 12/ 3/72

POSITION 50- 5.0N, 145- 6.0W GMT 19.3

RESULTS OF STP CAST 72 POINTS TAKEN FROM ANALOG TRACE

PRFSS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	4.94	32.66	0	25.85	215.5	0.0	0.0	1468.
10	4.94	32.66	10	25.85	215.7	0.22	0.01	1468.
20	4.94	32.66	20	25.85	215.8	0.43	0.04	1468.
30	4.93	32.66	30	25.85	215.9	0.65	0.10	1468.
50	4.93	32.66	50	25.86	216.1	1.08	0.28	1468.
75	4.84	32.68	75	25.88	213.6	1.62	0.62	1468.
100	4.78	32.69	99	25.90	212.6	2.15	1.09	1469.
125	4.78	32.70	124	25.91	211.9	2.68	1.70	1469.
150	4.59	33.45	149	26.52	153.8	3.14	2.34	1470.
175	4.30	33.67	174	26.72	134.7	3.50	2.94	1469.
200	4.45	33.76	199	26.78	129.7	3.83	3.57	1470.
225	4.34	33.78	223	26.81	127.3	4.15	4.26	1470.
250	4.00	33.79	248	26.85	123.2	4.47	5.02	1469.
300	3.85	33.85	298	26.92	117.4	5.07	6.70	1470.
400	3.81	34.01	397	27.04	106.1	6.19	10.69	1471.
500	3.66	34.12	496	27.15	97.0	7.20	15.34	1472.
600	3.46	34.20	595	27.23	89.7	8.13	20.54	1473.
800	3.08	34.30	793	27.34	79.6	9.82	32.52	1475.
1000	2.84	34.38	990	27.43	72.4	11.35	46.47	1477.
1200	2.58	34.45	1188	27.51	65.5	12.73	61.87	1480.
1500	2.28	34.52	1484	27.59	58.5	14.59	87.39	1484.



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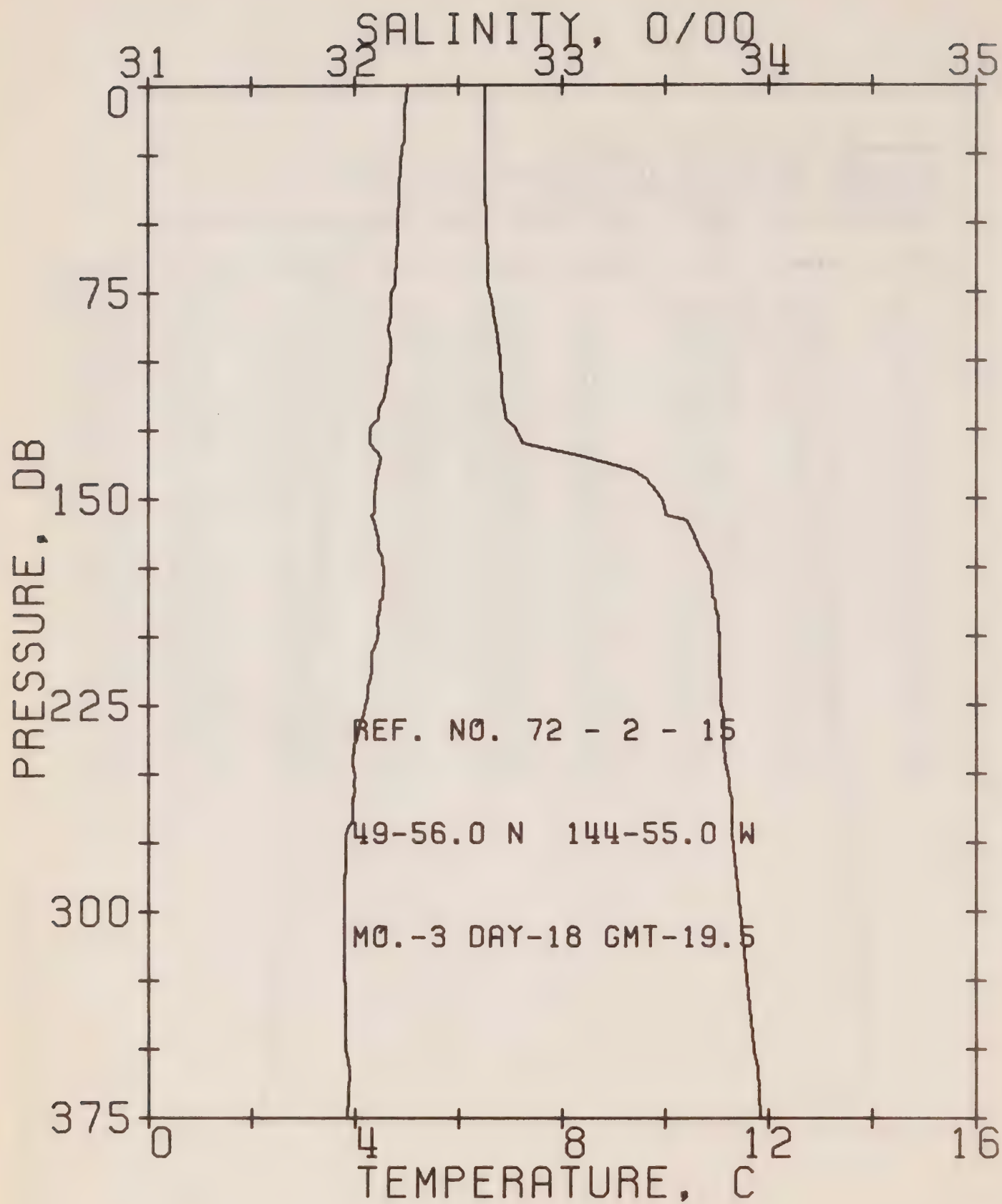
REFERENCE NO. 72- 2- 14

DATE 14/ 3/72

POSITION 50- 5.0N, 145- 0.0W GMT 23.2

RESULTS OF STP CAST 113 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	4.98	32.64	0	25.83	217.4	0.0	0.0	1468.
10	4.97	32.64	10	25.83	217.6	0.22	0.01	1468.
20	4.96	32.64	20	25.84	217.6	0.44	0.04	1468.
30	4.89	32.65	30	25.85	216.5	0.65	0.10	1468.
50	4.76	32.66	50	25.87	214.3	1.08	0.28	1468.
75	4.68	32.68	75	25.89	212.5	1.62	0.61	1468.
100	4.47	32.69	99	25.93	209.5	2.14	1.09	1467.
125	4.42	32.94	124	26.13	190.2	2.65	1.67	1468.
150	4.42	33.55	149	26.62	144.7	3.06	2.23	1469.
175	4.46	33.73	174	26.75	131.9	3.40	2.80	1470.
200	4.37	33.74	199	26.77	130.4	3.73	3.43	1470.
225	3.99	33.77	223	26.83	124.5	4.05	4.12	1469.
250	3.93	33.81	248	26.87	121.1	4.35	4.86	1469.
300	3.82	33.88	298	26.94	115.3	4.95	6.52	1469.
400	3.82	34.04	397	27.07	104.0	6.04	10.42	1471.
500	3.66	34.12	496	27.15	97.0	7.05	15.01	1472.
600	3.48	34.18	595	27.21	91.5	7.98	20.26	1473.
800	3.10	34.30	793	27.34	79.9	9.69	32.40	1475.
1000	2.83	34.38	990	27.43	72.3	11.22	46.37	1477.
1200	2.59	34.45	1188	27.51	65.8	12.60	61.90	1480.
1500	2.27	34.52	1483	27.59	58.4	14.47	87.53	1483.



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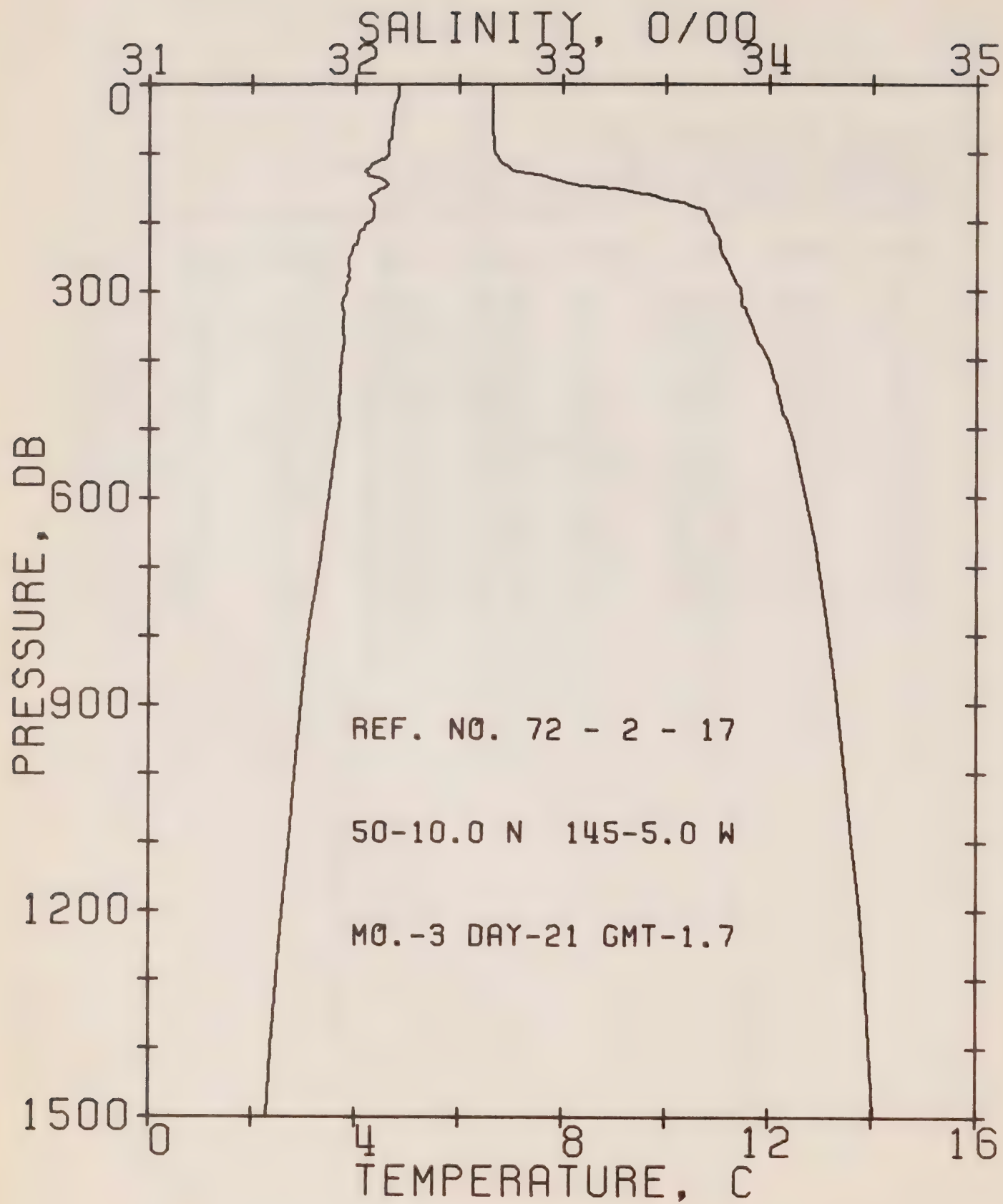
REFERENCE NO. 72- 2- 15

DATE 18/ 3/72

POSITION 49-56.0N, 144-55.0W GMT 19.5

RESULTS OF STP CAST 65 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.00	32.63	0	25.82	218.3	0.0	0.0	1468.
10	4.97	32.63	10	25.83	218.4	0.22	0.01	1468.
20	4.96	32.63	20	25.83	218.4	0.44	0.04	1468.
30	4.88	32.63	30	25.84	217.6	0.65	0.10	1468.
50	4.83	32.63	50	25.85	216.9	1.09	0.28	1468.
75	4.70	32.65	75	25.87	214.6	1.63	0.62	1468.
100	4.68	32.70	99	25.91	210.9	2.16	1.09	1468.
125	4.30	32.78	124	26.01	201.4	2.68	1.69	1467.
150	4.37	33.48	149	26.56	149.5	3.11	2.29	1469.
175	4.55	33.71	174	26.73	134.4	3.47	2.88	1470.
200	4.43	33.76	199	26.78	129.8	3.80	3.51	1470.
225	4.19	33.77	223	26.81	126.5	4.12	4.20	1470.
250	4.00	33.80	248	26.86	122.6	4.43	4.95	1469.
300	3.78	33.86	298	26.93	116.2	5.02	6.62	1469.



OFFSHORE OCEANOGRAPHY GROUP

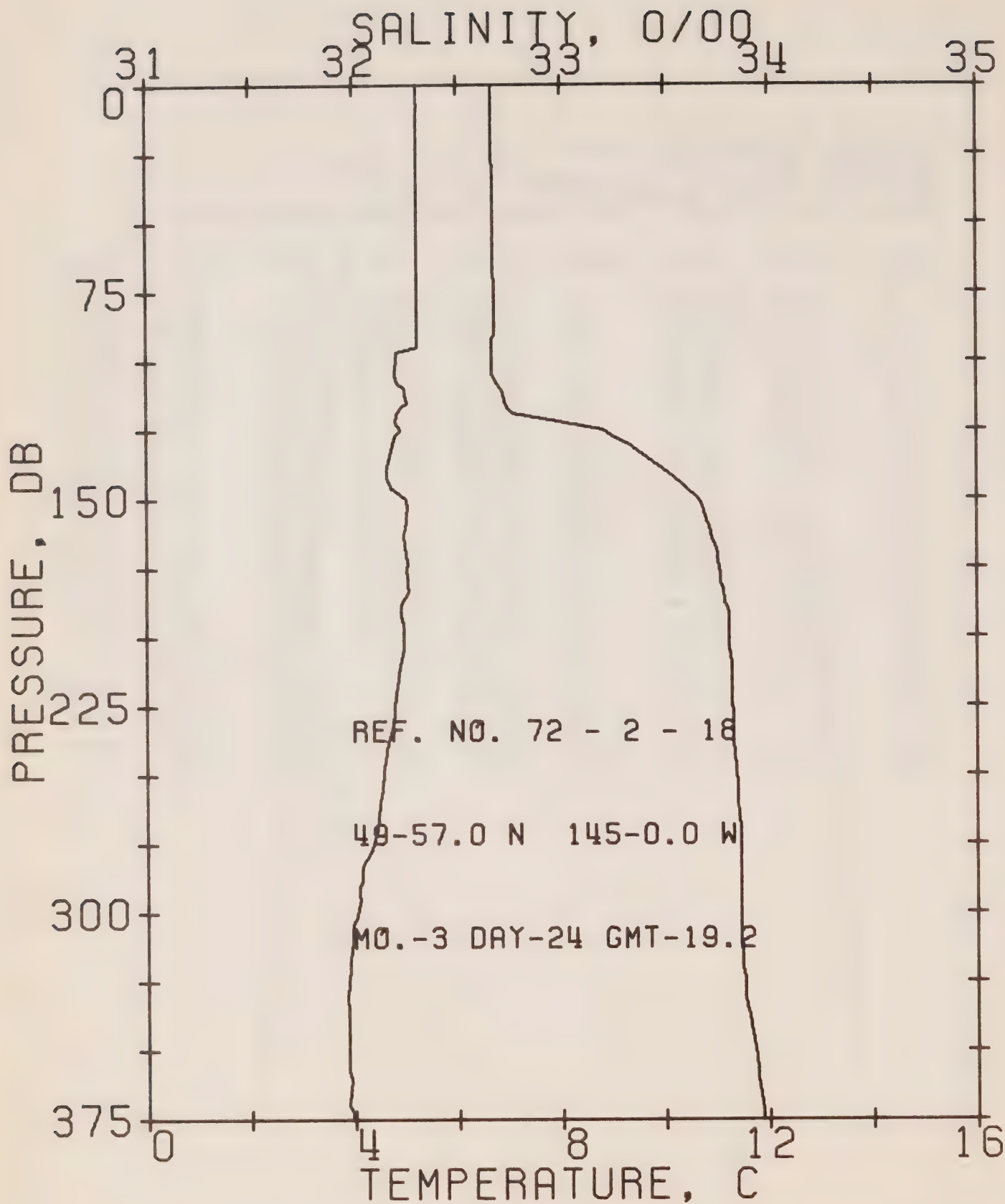
REFERENCE NO. 72- 2- 17

DATE 21/ 3/72

POSITION 50-10.0N, 145- 5.0W GMT 1.7

RESULTS OF STP CAST 83 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	4.84	32.66	0	25.87	214.4	0.0	0.0	1467.
10	4.83	32.66	10	25.87	214.7	0.21	0.01	1467.
20	4.81	32.66	20	25.87	214.5	0.43	0.04	1467.
30	4.75	32.66	30	25.88	213.9	0.64	0.10	1467.
50	4.72	32.66	50	25.88	213.8	1.07	0.27	1468.
75	4.69	32.66	75	25.88	213.5	1.61	0.61	1468.
100	4.64	32.67	99	25.90	212.5	2.14	1.09	1468.
125	4.18	32.75	124	26.01	202.2	2.66	1.68	1467.
150	4.60	33.18	149	26.30	174.4	3.13	2.35	1469.
175	4.38	33.61	174	26.67	140.1	3.52	2.99	1469.
200	4.29	33.71	199	26.76	131.9	3.86	3.63	1470.
225	4.05	33.76	223	26.82	126.0	4.18	4.32	1469.
250	3.90	33.78	248	26.85	123.3	4.49	5.08	1469.
300	3.84	33.86	298	26.92	116.8	5.09	6.76	1470.
400	3.73	33.99	397	27.04	106.4	6.21	10.75	1471.
500	3.68	34.10	496	27.13	98.9	7.24	15.45	1472.
600	3.49	34.18	595	27.21	91.6	8.19	20.77	1473.
800	3.10	34.29	793	27.33	80.7	9.90	32.96	1475.
1000	2.83	34.37	990	27.42	73.0	11.43	46.98	1477.
1200	2.59	34.44	1188	27.50	66.3	12.83	62.64	1480.
1500	2.30	34.51	1484	27.58	59.5	14.71	88.42	1484.



OFFSHORE OCEANOGRAPHY GROUP

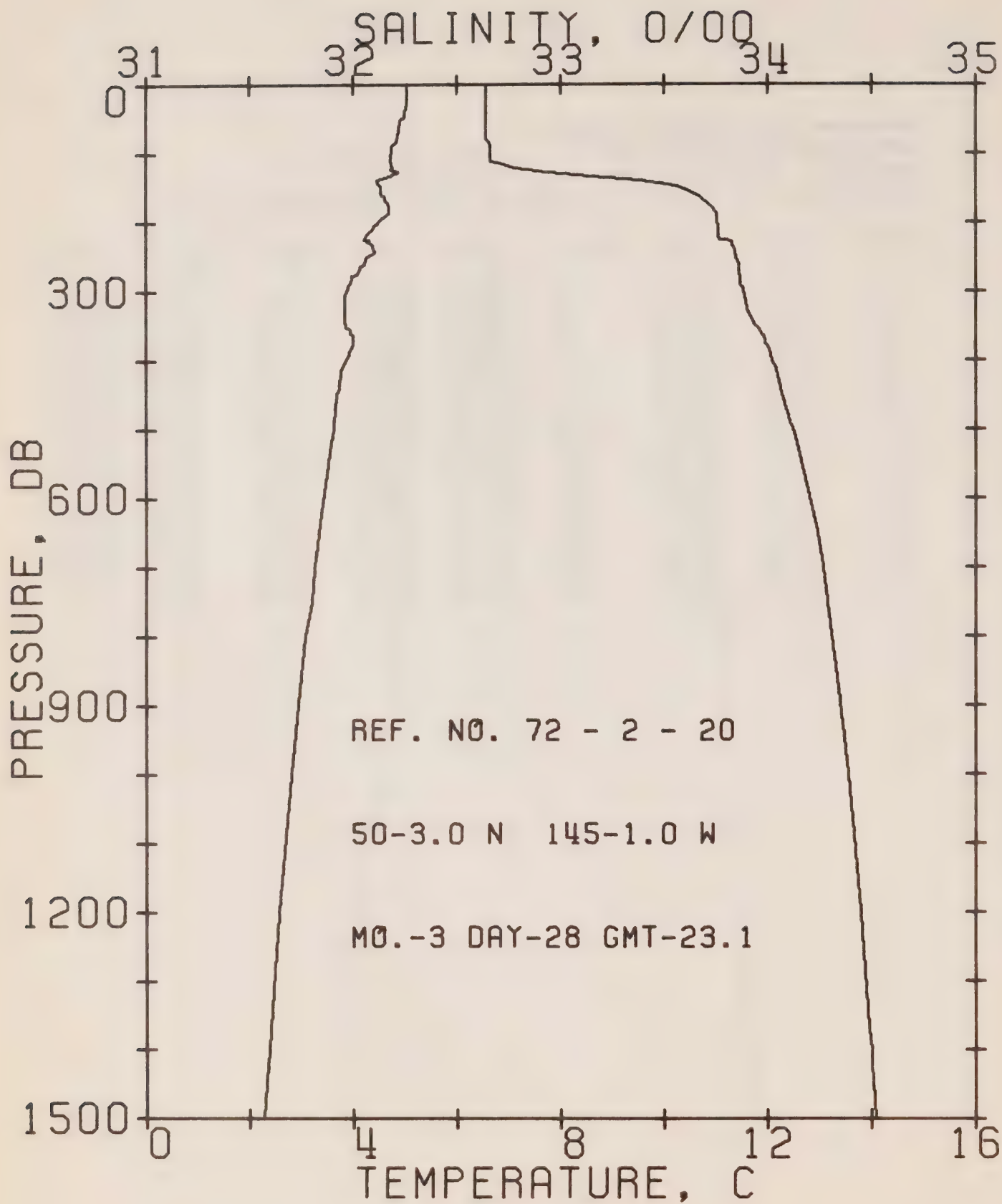
REFERENCE NO. 72- 2- 18

DATE 24/ 3/72

POSITION 49-57.0N, 145- 0.0W GMT 19.2

RESULTS OF STP CAST 75 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.23	32.67	0	25.83	217.8	0.0	0.0	1469.
10	5.23	32.67	10	25.83	218.1	0.22	0.01	1469.
20	5.23	32.67	20	25.83	218.1	0.44	0.04	1469.
30	5.23	32.67	30	25.83	218.1	0.65	0.10	1469.
50	5.23	32.68	50	25.83	218.1	1.09	0.28	1470.
75	5.23	32.68	75	25.84	218.2	1.64	0.63	1470.
100	4.82	32.67	99	25.87	214.6	2.18	1.11	1469.
125	4.92	33.20	124	26.28	176.1	2.70	1.70	1470.
150	5.00	33.66	149	26.64	142.8	3.09	2.25	1472.
175	5.03	33.76	174	26.71	136.0	3.43	2.82	1472.
200	4.97	33.81	199	26.76	131.7	3.77	3.46	1473.
225	4.78	33.82	223	26.79	128.8	4.09	4.16	1472.
250	4.54	33.84	248	26.83	125.1	4.41	4.93	1472.
300	4.03	33.86	298	26.90	118.8	5.02	6.63	1470.



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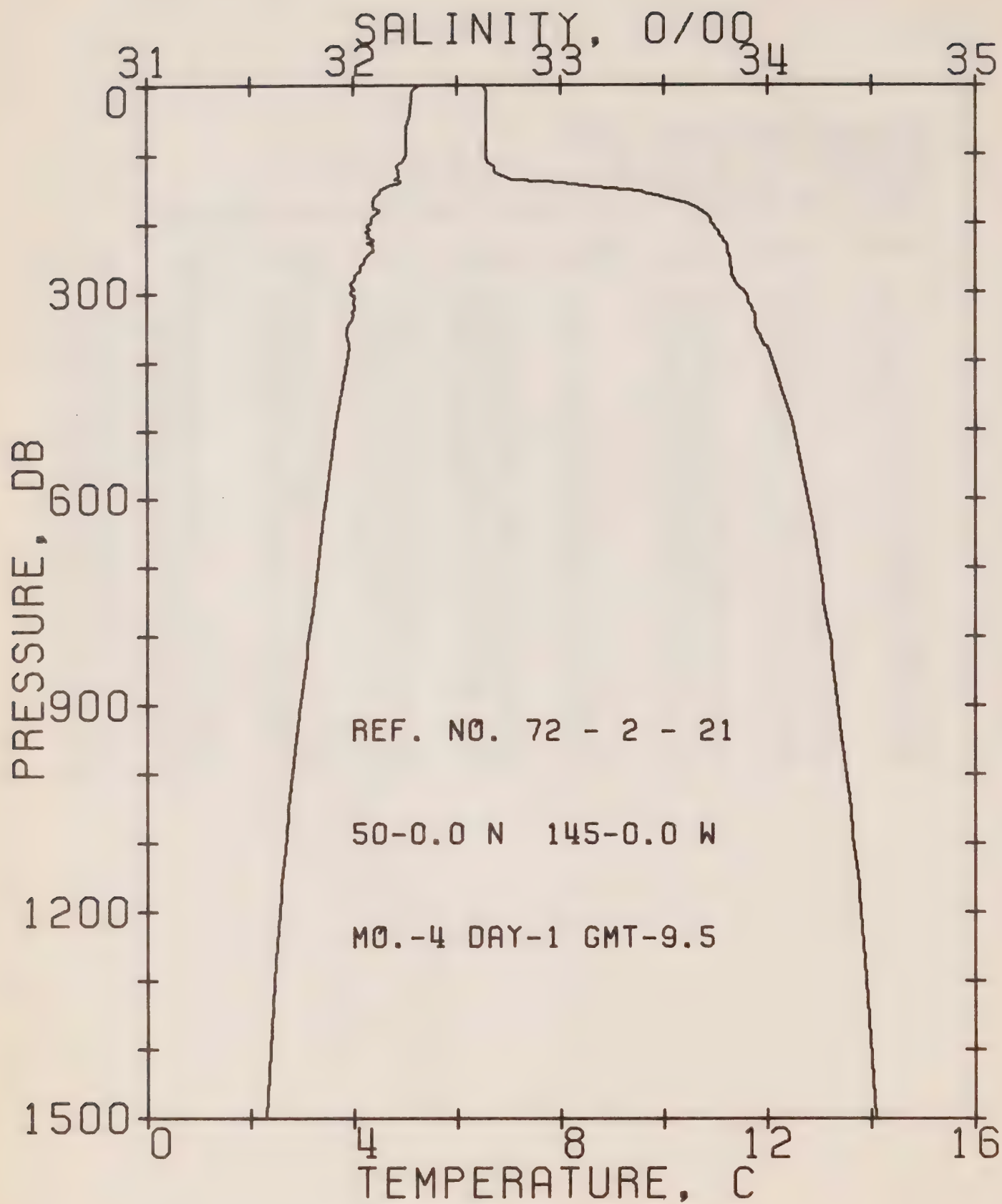
REFERENCE NO. 72- 2- 20

DATE 28/ 3/72

POSITION 50- 3.0N, 145- 1.0W GMT 23.1

RESULTS OF STP CAST 81 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.04	32.64	0	25.83	218.1	0.0	0.0	1468.
10	5.04	32.64	10	25.83	218.3	0.22	0.01	1468.
20	5.03	32.64	20	25.83	218.4	0.44	0.04	1468.
30	5.01	32.64	30	25.83	218.3	0.65	0.10	1468.
50	4.95	32.64	50	25.84	217.7	1.09	0.28	1468.
75	4.86	32.64	75	25.85	217.0	1.63	0.62	1469.
100	4.74	32.66	99	25.88	214.5	2.17	1.10	1468.
125	4.75	32.86	124	26.03	200.1	2.70	1.71	1469.
150	4.53	33.57	149	26.62	144.5	3.13	2.30	1470.
175	4.68	33.72	174	26.72	135.3	3.47	2.87	1471.
200	4.49	33.75	199	26.77	131.0	3.81	3.51	1470.
225	4.21	33.77	223	26.81	126.7	4.13	4.21	1470.
250	4.31	33.85	248	26.86	122.0	4.44	4.96	1471.
300	3.88	33.88	298	26.93	115.7	5.03	6.62	1470.
400	3.88	34.02	397	27.04	106.1	6.14	10.58	1472.
500	3.63	34.12	496	27.15	96.7	7.15	15.19	1472.
600	3.43	34.20	595	27.23	89.3	8.08	20.38	1473.
800	3.07	34.31	793	27.35	78.8	9.75	32.27	1475.
1000	2.79	34.39	990	27.44	71.1	11.25	45.96	1477.
1200	2.57	34.45	1188	27.51	65.4	12.61	61.21	1480.
1500	2.26	34.52	1484	27.59	58.3	14.47	86.70	1483.



OFFSHORE OCEANOGRAPHY GROUP

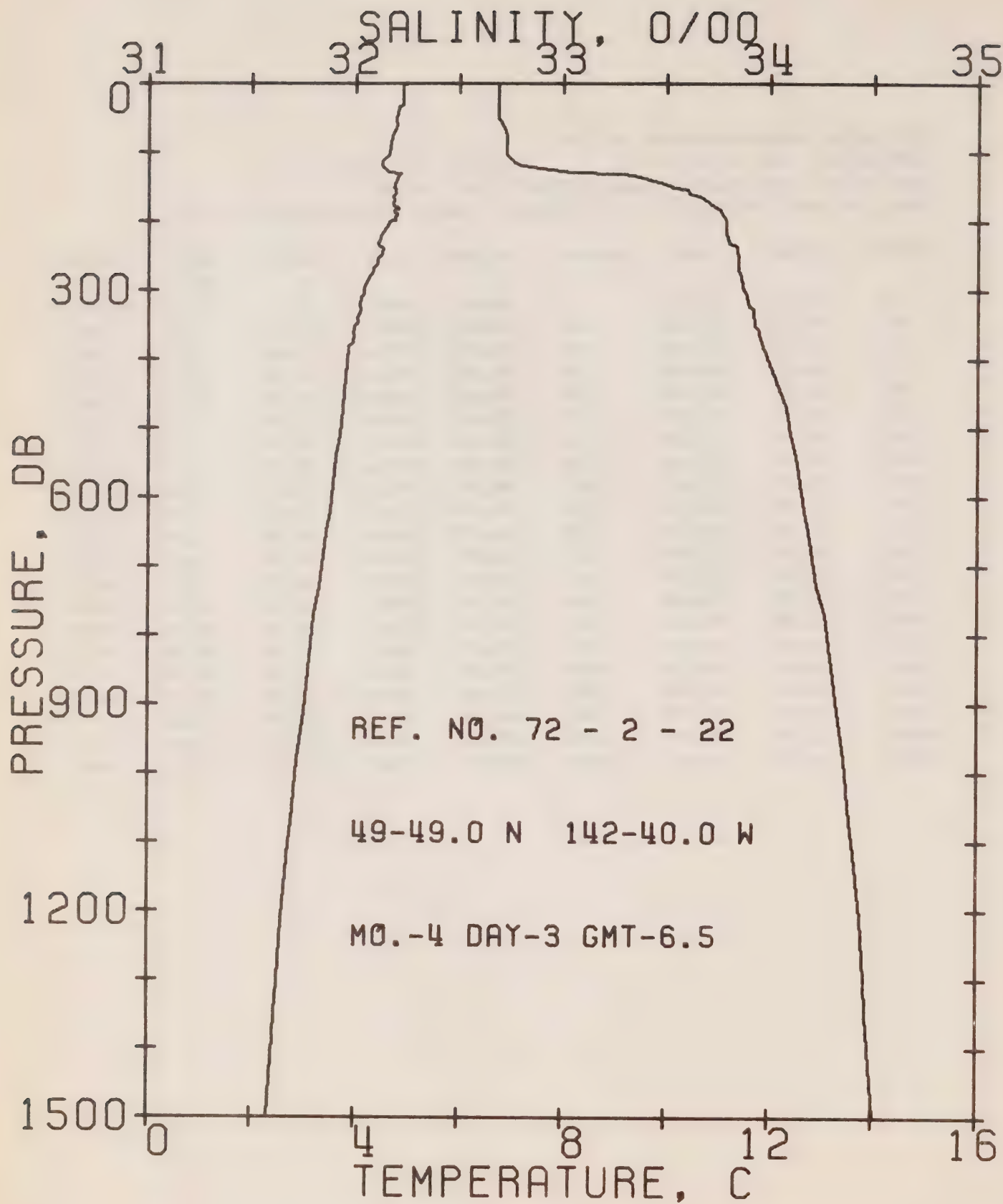
REFERENCE NO. 72- 2- 21

DATE 1/ 4/72

POSITION 50- 0.0N, 145- 0.0W GMT 9.5

RESULTS OF STP CAST 85 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.20	32.64	0	25.81	219.8	0.0	0.0	1469.
10	5.12	32.64	10	25.82	219.2	0.22	0.01	1469.
20	5.11	32.64	20	25.82	219.2	0.44	0.04	1469.
30	5.11	32.64	30	25.82	219.3	0.66	0.10	1469.
50	5.07	32.64	50	25.82	219.0	1.10	0.28	1469.
75	5.01	32.64	75	25.83	218.6	1.64	0.63	1469.
100	5.00	32.64	99	25.83	218.7	2.19	1.12	1469.
125	4.86	32.68	124	25.88	214.5	2.73	1.74	1469.
150	4.61	33.23	149	26.34	170.5	3.23	2.43	1469.
175	4.39	33.63	174	26.69	138.3	3.61	3.06	1469.
200	4.34	33.73	199	26.77	130.9	3.94	3.69	1470.
225	4.38	33.79	223	26.81	127.2	4.26	4.39	1470.
250	4.25	33.82	248	26.84	123.9	4.58	5.15	1470.
300	3.96	33.89	298	26.93	116.0	5.18	6.84	1470.
400	3.88	34.02	397	27.05	105.9	6.29	10.80	1472.
500	3.63	34.13	496	27.15	96.3	7.30	15.41	1472.
600	3.47	34.19	595	27.22	90.3	8.23	20.62	1473.
800	3.12	34.30	793	27.34	79.8	9.93	32.71	1475.
1000	2.81	34.38	990	27.43	72.1	11.46	46.65	1477.
1200	2.57	34.45	1188	27.51	65.6	12.83	62.01	1480.
1500	2.28	34.52	1484	27.59	58.5	14.68	87.42	1484.



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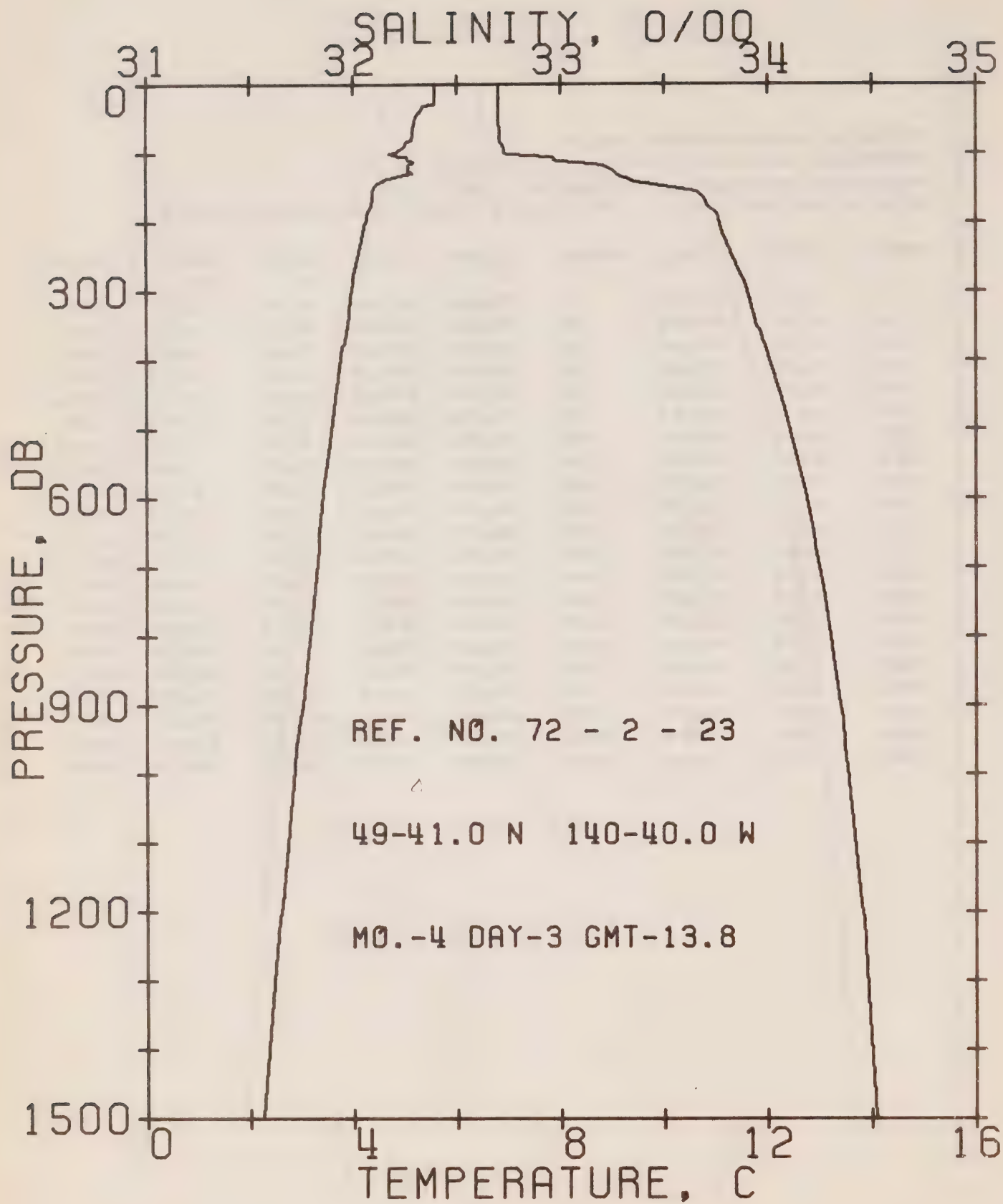
REFERENCE NO. 72- 2- 22

DATE 3/ 4/72

POSITION 49-49.0N, 142-40.0W GMT 6.5

RESULTS OF STP CAST 78 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	4.96	32.69	0	25.88	213.4	0.0	0.0	1468.
10	4.92	32.69	10	25.88	213.3	0.21	0.01	1468.
20	4.92	32.69	20	25.88	213.4	0.43	0.04	1468.
30	4.90	32.69	30	25.88	213.3	0.64	0.10	1468.
50	4.78	32.69	50	25.90	212.2	1.07	0.27	1468.
75	4.70	32.73	75	25.94	208.6	1.59	0.61	1468.
100	4.66	32.73	99	25.94	208.3	2.11	1.07	1468.
125	4.57	32.92	124	26.10	193.4	2.62	1.66	1469.
150	4.75	33.52	149	26.56	150.5	3.04	2.24	1470.
175	4.73	33.71	174	26.71	136.0	3.40	2.83	1471.
200	4.76	33.79	199	26.77	130.9	3.73	3.46	1472.
225	4.47	33.80	223	26.80	127.6	4.05	4.16	1471.
250	4.49	33.85	248	26.84	124.2	4.36	4.92	1471.
300	4.17	33.88	298	26.90	118.9	4.97	6.62	1471.
400	3.85	33.99	397	27.02	107.9	6.11	10.66	1471.
500	3.73	34.09	496	27.12	99.6	7.14	15.38	1473.
600	3.55	34.16	595	27.19	93.6	8.10	20.76	1474.
800	3.16	34.28	793	27.32	81.8	9.86	33.25	1475.
1000	2.85	34.37	990	27.42	73.4	11.41	47.45	1477.
1200	2.61	34.44	1188	27.49	66.9	12.81	63.17	1480.
1500	2.32	34.51	1484	27.58	59.7	14.71	89.24	1484.



OFFSHORE OCEANOGRAPHY GROUP

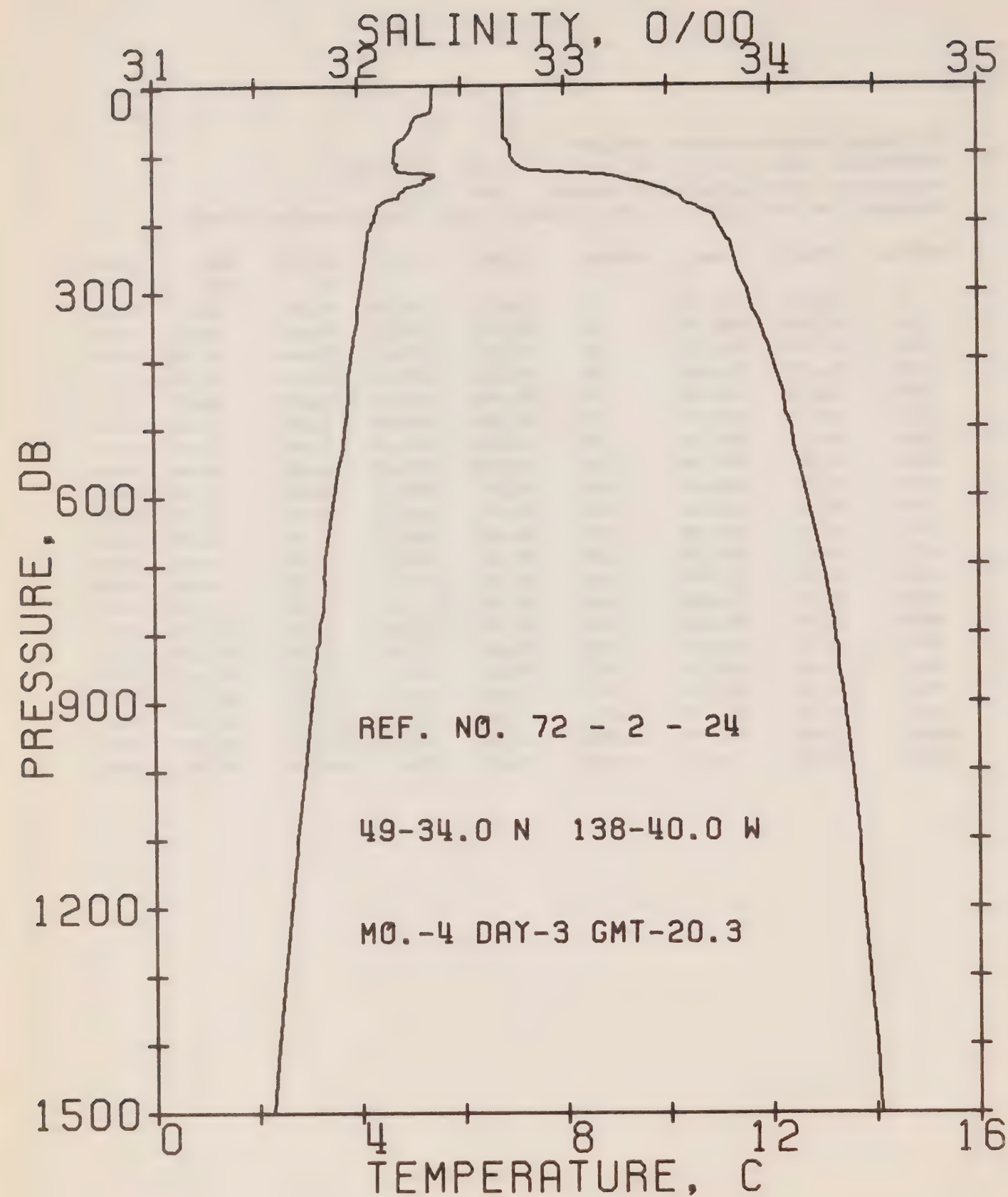
REFERENCE NO. 72- 2- 23

DATE 3/ 4/72

POSITION 49-41.0N, 140-40.0W GMT 13.8

RESULTS OF STP CAST 57 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.56	32.70	0	25.82	219.2	0.0	0.0	1470.
10	5.56	32.70	10	25.82	219.5	0.22	0.01	1470.
20	5.56	32.70	20	25.82	219.6	0.44	0.04	1471.
30	5.55	32.70	30	25.82	219.6	0.66	0.10	1471.
50	5.18	32.70	50	25.86	215.8	1.09	0.28	1470.
75	5.13	32.71	75	25.87	214.6	1.63	0.62	1470.
100	4.83	32.73	99	25.92	210.2	2.16	1.09	1469.
125	5.08	33.24	124	26.30	174.9	2.64	1.64	1471.
150	4.40	33.54	149	26.61	145.4	3.05	2.21	1469.
175	4.35	33.71	174	26.75	132.3	3.39	2.77	1469.
200	4.25	33.76	199	26.80	127.3	3.71	3.39	1469.
225	4.17	33.79	223	26.83	124.7	4.02	4.07	1470.
250	4.08	33.83	248	26.87	121.3	4.33	4.81	1470.
300	3.97	33.90	298	26.94	115.0	4.92	6.46	1470.
400	3.76	34.01	397	27.05	105.6	6.03	10.40	1471.
500	3.59	34.10	496	27.14	97.5	7.04	15.04	1472.
600	3.41	34.19	595	27.22	90.1	7.98	20.29	1473.
800	3.15	34.30	793	27.34	80.1	9.68	32.37	1475.
1000	2.84	34.38	990	27.43	72.1	11.20	46.26	1477.
1200	2.59	34.45	1188	27.51	65.3	12.57	61.63	1480.
1500	2.25	34.52	1484	27.59	58.2	14.42	86.94	1483.



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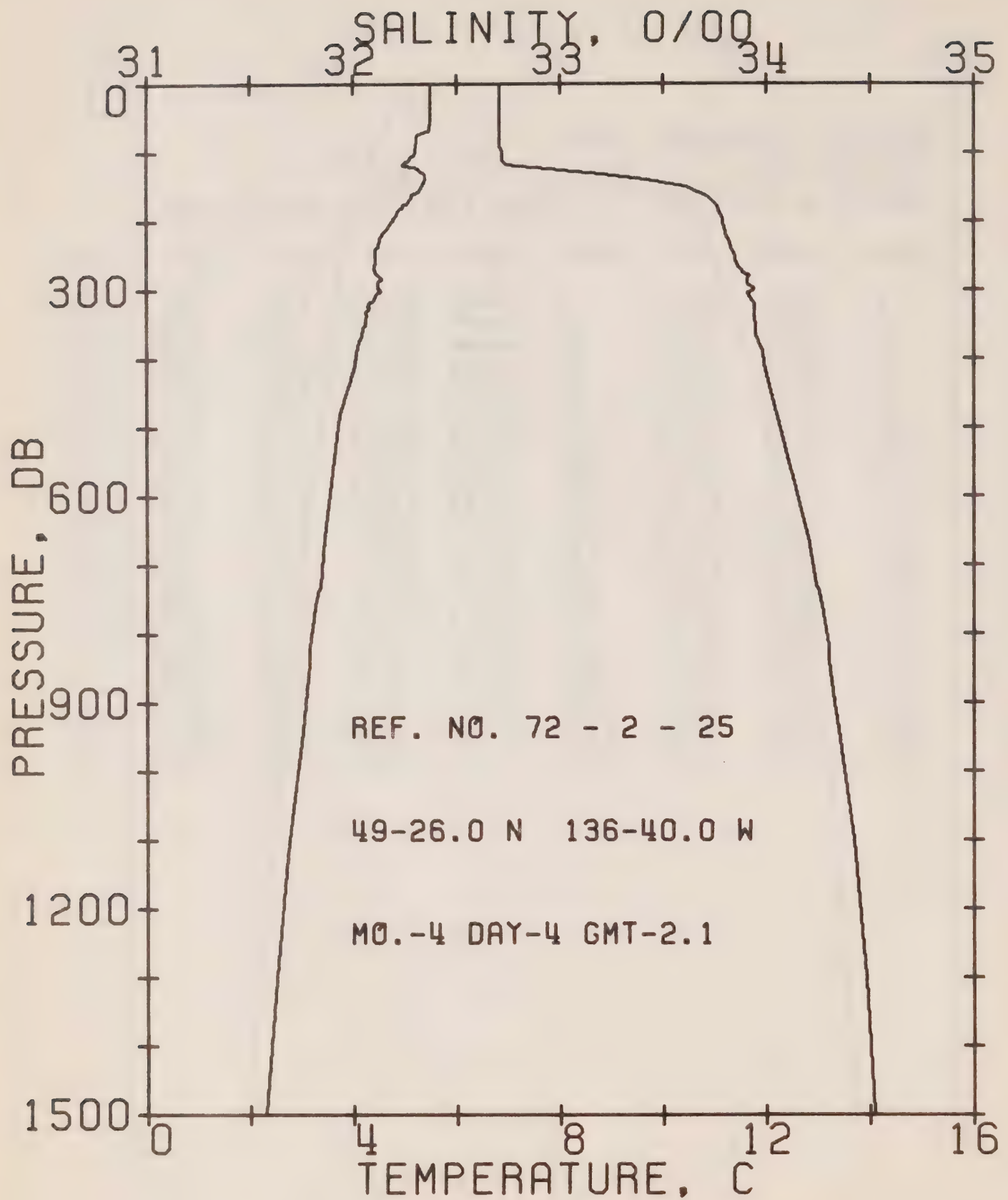
REFERENCE NO. 72- 2- 24

DATE 3/ 4/72

POSITION 49-34.0N, 138-40.0W GMT 20.3

RESULTS OF STP CAST 80 POINTS TAKEN FROM ANALCG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.47	32.71	0	25.83	217.4	0.0	0.0	1470.
10	5.45	32.71	10	25.84	217.6	0.22	0.01	1470.
20	5.45	32.71	20	25.84	217.7	0.44	0.04	1470.
30	5.43	32.71	30	25.84	217.5	0.65	0.10	1470.
50	5.09	32.71	50	25.88	214.0	1.09	0.28	1469.
75	4.92	32.71	75	25.90	212.4	1.62	0.62	1469.
100	4.73	32.74	99	25.94	208.3	2.14	1.08	1469.
125	4.79	32.88	124	26.04	198.6	2.66	1.67	1469.
150	4.90	33.47	149	26.50	155.9	3.09	2.28	1471.
175	4.41	33.62	174	26.67	139.6	3.46	2.89	1470.
200	4.29	33.74	199	26.78	129.6	3.80	3.53	1470.
225	4.18	33.79	223	26.83	124.9	4.11	4.22	1470.
250	4.13	33.82	248	26.86	122.4	4.42	4.96	1470.
300	4.03	33.89	298	26.93	116.5	5.02	6.64	1470.
400	3.84	34.01	397	27.04	106.6	6.14	10.61	1471.
500	3.70	34.10	496	27.13	99.0	7.16	15.32	1473.
600	3.50	34.17	595	27.20	92.3	8.12	20.69	1473.
800	3.19	34.31	793	27.34	80.4	9.84	32.89	1476.
1000	2.90	34.39	990	27.43	72.3	11.37	46.86	1478.
1200	2.63	34.44	1188	27.50	66.7	12.76	62.41	1480.
1500	2.27	34.52	1484	27.59	58.4	14.62	88.00	1483.



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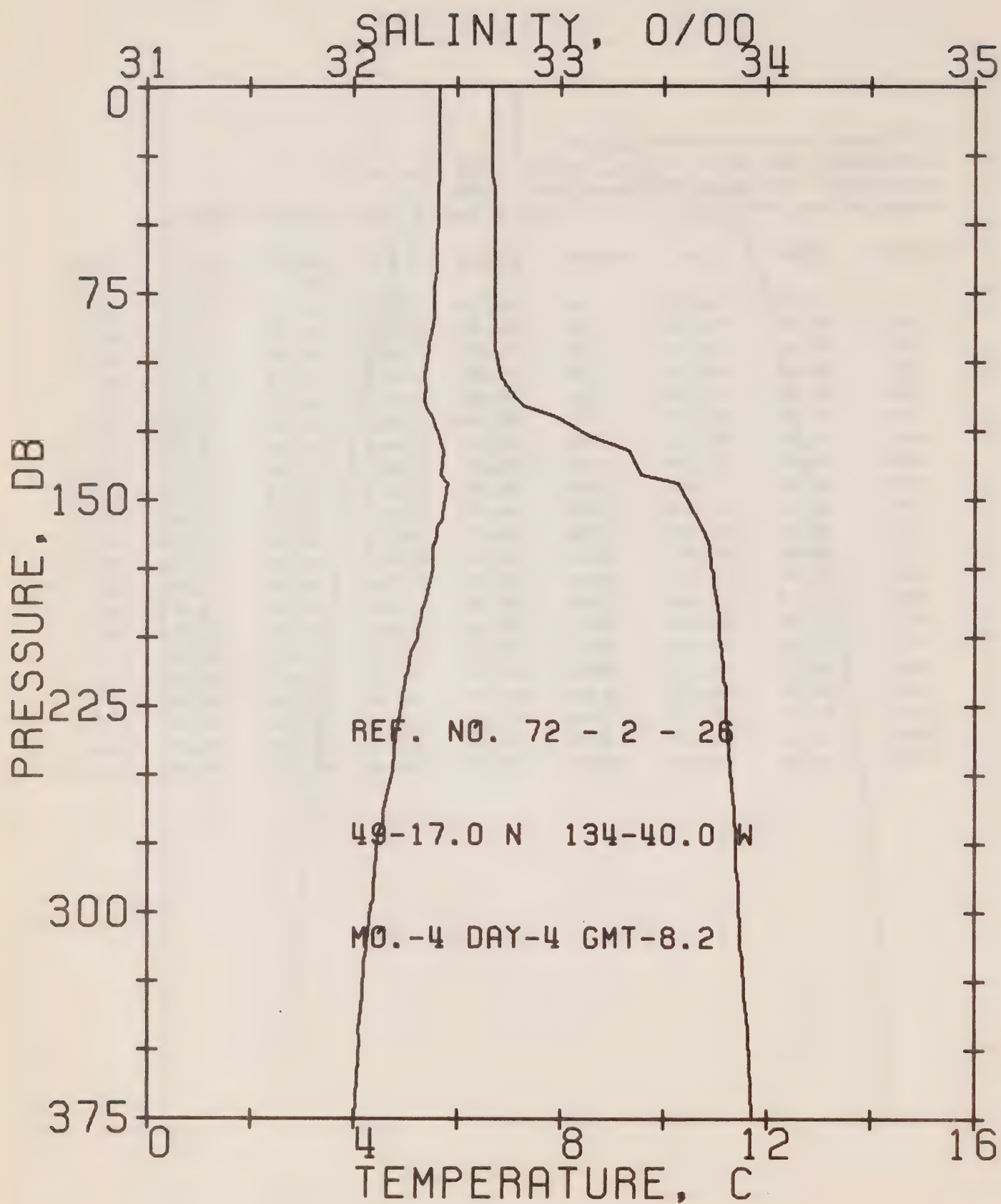
REFERENCE NO. 72- 2- 25

DATE 4/ 4/72

POSITION 49-26.0N, 136-40.0W GMT 2.1

RESULTS OF STP CAST 77 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.50	32.71	0	25.83	217.8	0.0	0.0	1470.
10	5.50	32.71	10	25.83	218.1	0.22	0.01	1470.
20	5.50	32.71	20	25.83	218.2	0.44	0.04	1470.
30	5.50	32.71	30	25.83	218.3	0.65	0.10	1471.
50	5.50	32.71	50	25.83	218.5	1.09	0.28	1471.
75	5.26	32.71	75	25.86	216.1	1.64	0.63	1470.
100	5.19	32.72	99	25.87	214.8	2.18	1.11	1470.
125	5.24	32.94	124	26.04	198.9	2.70	1.71	1471.
150	5.30	33.61	149	26.56	149.9	3.13	2.31	1473.
175	5.02	33.75	174	26.70	136.7	3.49	2.90	1472.
200	4.77	33.75	199	26.77	131.0	3.82	3.54	1472.
225	4.52	33.81	223	26.81	126.9	4.15	4.24	1471.
250	4.42	33.85	248	26.85	123.2	4.46	4.99	1471.
300	4.53	33.94	298	26.91	118.1	5.06	6.69	1473.
400	4.04	33.98	397	27.00	110.4	6.21	10.77	1472.
500	3.70	34.07	496	27.10	101.5	7.27	15.61	1472.
600	3.53	34.15	595	27.18	94.2	8.25	21.08	1474.
800	3.18	34.29	793	27.33	81.5	10.00	33.56	1476.
1000	2.91	34.38	990	27.42	73.4	11.56	47.78	1478.
1200	2.63	34.45	1188	27.50	66.0	12.95	63.31	1480.
1500	2.30	34.52	1484	27.59	58.8	14.81	88.85	1484.



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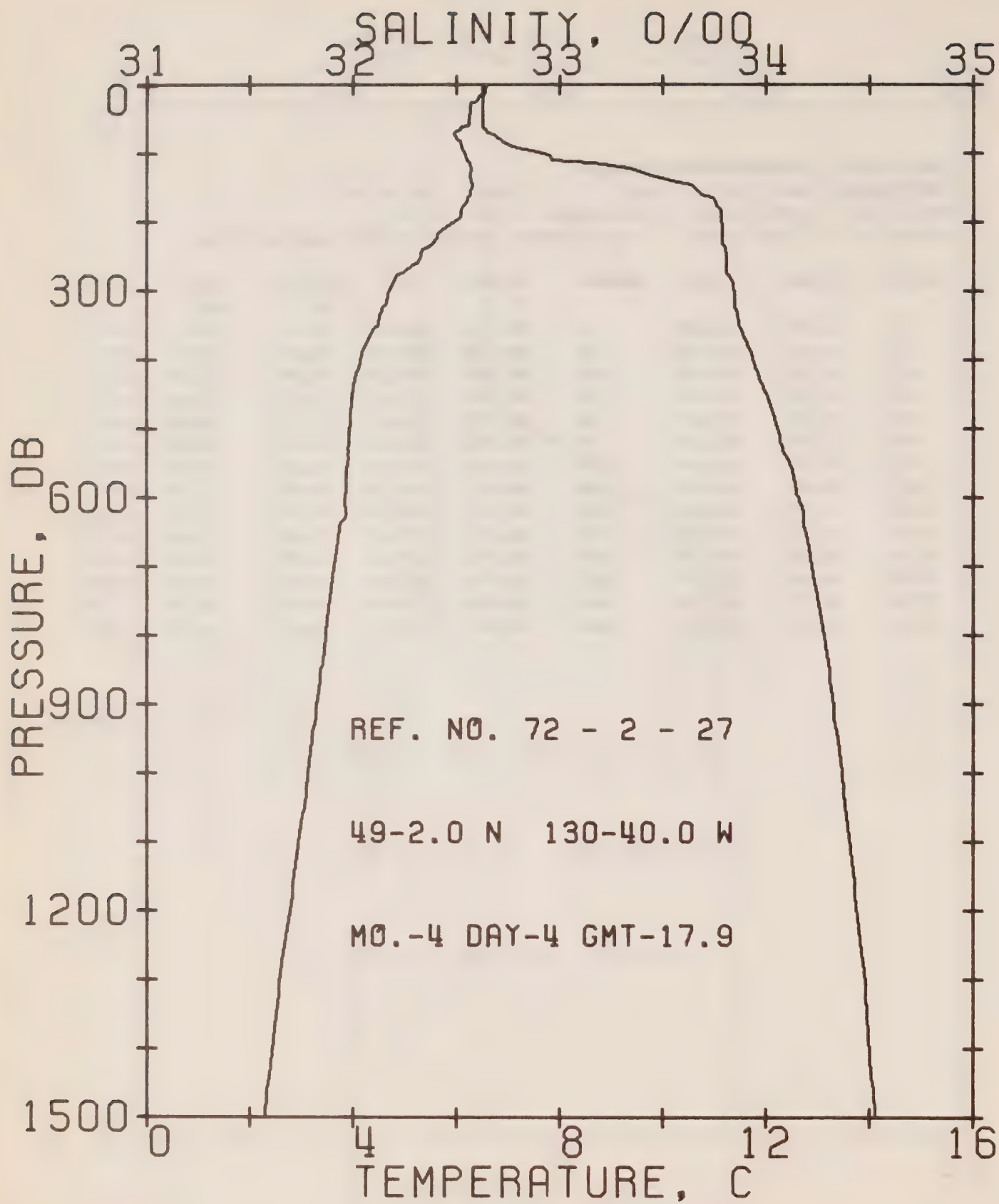
REFERENCE NO. 72- 2- 26

DATE 4/ 4/72

POSITION 49-17.0N. 134-40.0W GMT 8.2

RESULTS OF STP CAST 56 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	5.65	32.67	0	25.78	222.4	0.0	0.0	1471.
10	5.65	32.67	10	25.78	222.7	0.22	0.01	1471.
20	5.65	32.67	20	25.78	222.8	0.45	0.05	1471.
30	5.65	32.67	30	25.78	222.9	0.67	0.10	1471.
50	5.62	32.68	50	25.79	222.1	1.11	0.28	1471.
75	5.55	32.68	75	25.80	221.5	1.67	0.64	1471.
100	5.40	32.69	99	25.83	219.0	2.22	1.13	1471.
125	5.61	33.09	124	26.12	191.8	2.74	1.73	1473.
150	5.75	33.61	149	26.51	155.0	3.17	2.33	1475.
175	5.52	33.73	174	26.63	143.8	3.54	2.94	1474.
200	5.22	33.77	199	26.70	137.5	3.89	3.61	1474.
225	4.89	33.80	223	26.76	131.9	4.23	4.33	1473.
250	4.73	33.82	248	26.80	128.5	4.55	5.12	1472.
300	4.31	33.86	298	26.87	121.6	5.18	6.86	1472.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 2- 27

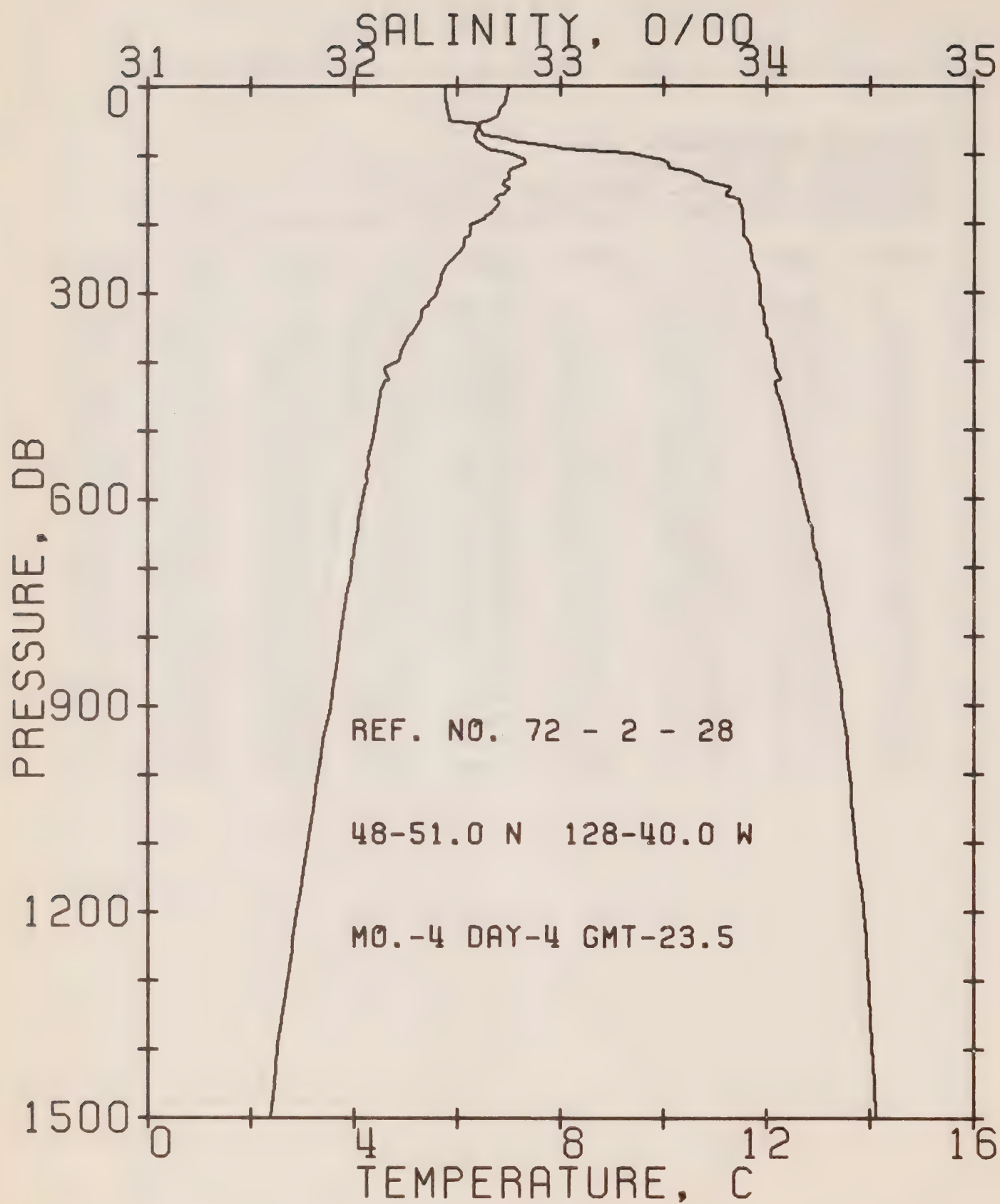
DATE 4/ 4/72

POSITION 49- 2.0N, 130-40.0W

GMT 17.9

RESULTS OF STP CAST 103 POINTS TAKEN FROM ANALCG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.50	32.65	0	25.66	233.9	0.0	0.0	1474.
10	6.50	32.64	10	25.65	234.8	0.23	0.01	1474.
20	6.41	32.63	20	25.66	234.8	0.47	0.05	1474.
30	6.26	32.63	30	25.67	233.0	0.70	0.11	1473.
50	6.25	32.63	50	25.68	233.3	1.17	0.30	1474.
75	5.97	32.69	75	25.76	225.5	1.75	0.67	1473.
100	6.17	32.92	99	25.91	211.1	2.30	1.16	1475.
125	6.29	33.36	124	26.25	179.9	2.80	1.73	1476.
150	6.30	33.65	149	26.47	158.8	3.22	2.32	1477.
175	6.15	33.76	174	26.58	149.5	3.60	2.95	1477.
200	5.94	33.78	199	26.62	145.4	3.97	3.66	1476.
225	5.60	33.79	223	26.67	140.8	4.33	4.43	1476.
250	5.30	33.81	248	26.72	136.1	4.67	5.26	1475.
300	4.69	33.84	298	26.82	127.1	5.33	7.10	1473.
400	4.13	33.94	397	26.95	114.9	6.55	11.44	1473.
500	3.93	34.06	496	27.07	104.4	7.64	16.43	1473.
600	3.85	34.16	595	27.16	96.9	8.65	22.07	1475.
800	3.47	34.28	793	27.29	85.2	10.46	34.99	1477.
1000	3.11	34.37	990	27.40	76.1	12.08	49.76	1479.
1200	2.77	34.44	1188	27.48	68.5	13.52	65.95	1481.
1500	2.29	34.53	1484	27.60	58.0	15.41	91.80	1484.



OFFSHORE OCEANOGRAPHY GROUP

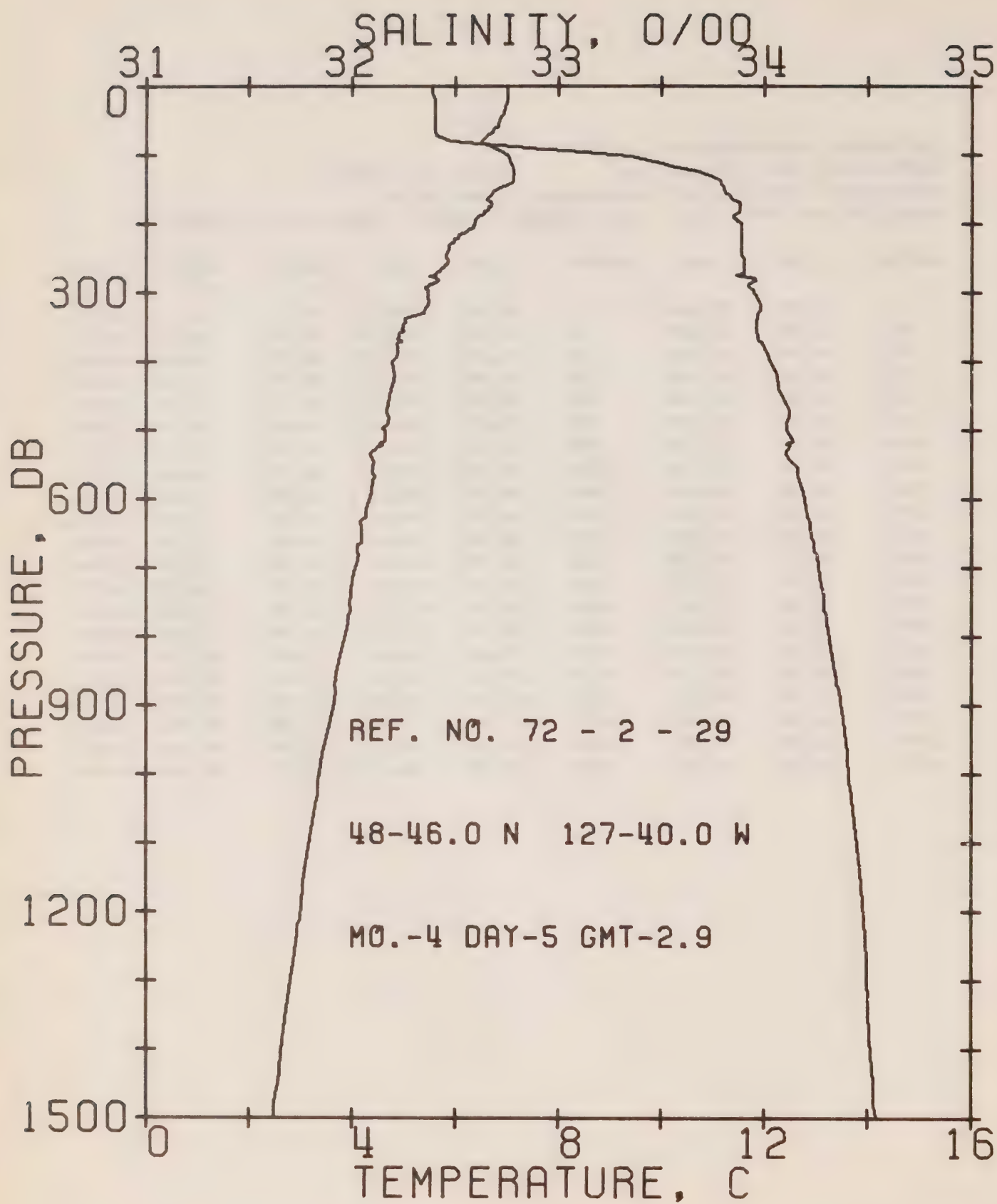
REFERENCE NO. 72- 2- 28

DATE 4/ 4/72

POSITION 48-51.0N, 128-40.0W GMT 23.5

RESULTS OF STP CAST 117 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.99	32.44	0	25.43	255.7	0.0	0.0	1476.
10	6.96	32.44	10	25.43	255.8	0.26	0.01	1476.
20	6.94	32.44	20	25.44	255.5	0.51	0.05	1476.
30	6.86	32.45	30	25.46	254.0	0.77	0.12	1476.
50	6.64	32.46	50	25.49	250.7	1.27	0.32	1475.
75	6.35	32.70	75	25.72	229.8	1.87	0.70	1475.
100	7.01	33.35	99	26.15	189.4	2.40	1.17	1479.
125	6.99	33.62	124	26.35	170.0	2.85	1.69	1479.
150	6.99	33.83	149	26.52	154.8	3.26	2.26	1480.
175	6.76	33.87	174	26.59	148.4	3.64	2.89	1479.
200	6.34	33.89	199	26.66	142.2	4.00	3.58	1478.
225	6.12	33.90	223	26.70	138.6	4.35	4.35	1478.
250	5.93	33.93	248	26.74	134.6	4.69	5.17	1477.
300	5.59	33.97	298	26.81	128.1	5.35	7.00	1477.
400	4.86	34.04	357	26.96	115.4	6.56	11.33	1476.
500	4.40	34.10	496	27.06	106.4	7.67	16.38	1475.
600	4.16	34.18	595	27.14	99.2	8.69	22.14	1476.
800	3.73	34.31	793	27.29	85.8	10.54	35.23	1478.
1000	3.30	34.40	990	27.40	75.8	12.15	49.98	1479.
1200	2.87	34.47	1188	27.50	67.3	13.59	66.09	1481.
1500	2.36	34.53	1484	27.59	58.8	15.47	91.99	1484.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 2- 29

DATE 5/ 4/72

POSITION 48-46.0N, 127-40.0W

GMT 2.9

RESULTS OF STP CAST 160 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.02	32.39	0	25.39	259.9	0.0	0.0	1476.
10	7.01	32.39	10	25.39	260.1	0.26	0.01	1476.
20	7.00	32.40	20	25.40	259.4	0.52	0.05	1476.
30	6.96	32.40	30	25.40	259.0	0.78	0.12	1476.
50	6.85	32.40	50	25.42	257.8	1.30	0.33	1476.
75	6.58	32.44	75	25.48	252.1	1.94	0.74	1475.
100	6.98	33.25	99	26.07	197.0	2.51	1.24	1478.
125	7.12	33.69	124	26.40	165.9	2.96	1.76	1480.
150	6.79	33.80	149	26.53	154.0	3.36	2.32	1479.
175	6.67	33.88	174	26.61	146.8	3.73	2.94	1479.
200	6.37	33.89	199	26.65	142.6	4.10	3.63	1478.
225	5.97	33.89	223	26.70	137.8	4.45	4.39	1477.
250	5.80	33.90	248	26.73	135.4	4.79	5.22	1477.
300	5.46	33.95	298	26.81	128.1	5.45	7.08	1476.
400	4.78	34.03	397	26.96	115.2	6.67	11.43	1475.
500	4.63	34.11	496	27.04	108.5	7.78	16.51	1476.
600	4.33	34.19	595	27.14	99.8	8.83	22.35	1477.
800	3.85	34.31	793	27.28	87.3	10.68	35.57	1478.
1000	3.35	34.41	991	27.40	76.0	12.31	50.43	1480.
1200	2.99	34.48	1188	27.49	68.2	13.75	66.51	1482.
1500	2.47	34.54	1484	27.59	59.2	15.66	92.73	1484.

SURFACE TEMPERATURE AND SALINITY OBSERVATIONS

(P-72-2)

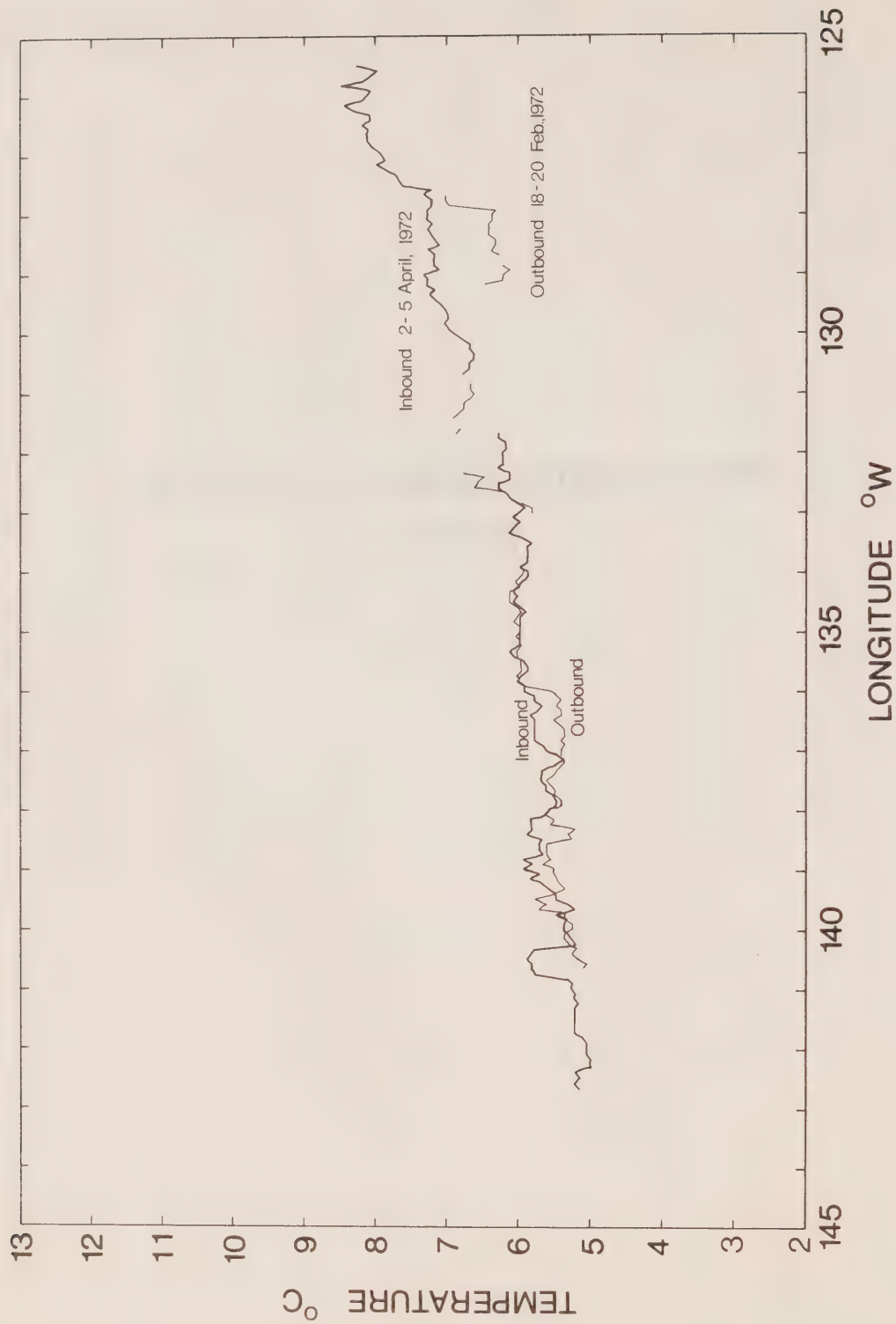


Fig. 14 Graph of Line P surface temperatures as continuously recorded from a probe located at the engine room intake (approximately 3 meters below surface). P-72-2.

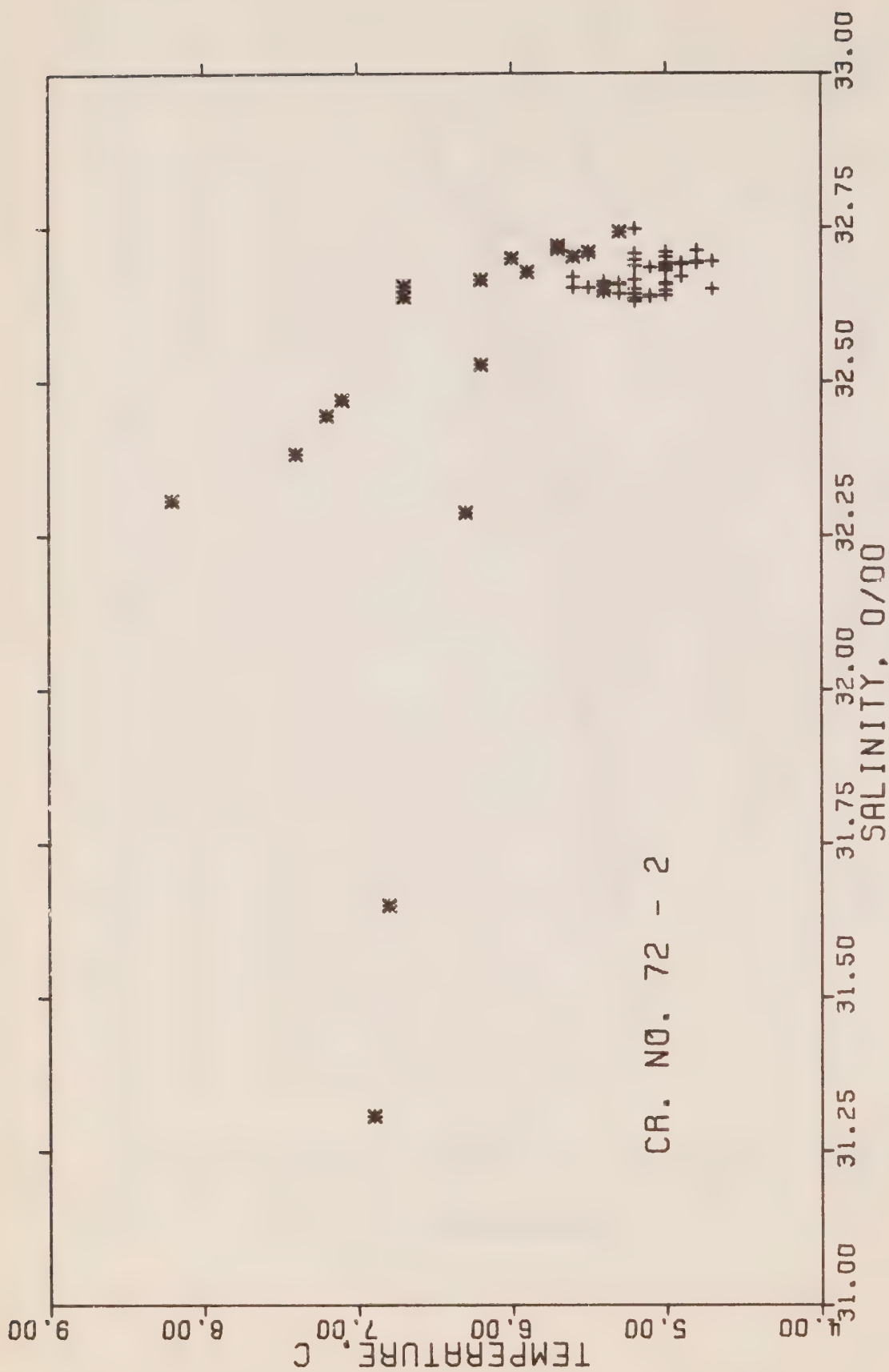


Fig. 15 T-S plot of surface temperature and salinity observations on Line P (asterisks) and at Station P (pluses) during Cruise P-72-2.

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 72- 2

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DY	GMT			
				0/00	C	WEST
72	2	18	2335	31.308	7.5 #	125-33
72	2	19	200	31.649		126- 0
72	2	19	400	32.030		126-40
72	2	19	700	32.471	7.1	127-40
72	2	19	1000	32.288	6.3 #	128-40
72	2	19	1900	32.637	6.7	130-40
72	2	20	10	32.665	6.2 #	132-40
72	2	20	600	32.701	6.0	134-40
72	2	20	1220	32.648	5.4 #	136-40
72	2	20	2100	32.703	5.6 #	138-40
72	2	21	600	32.742	5.3 #	140-40
72	2	21	1700	32.748	5.2 #	142-40
72	2	22	0	0.0	5.1	145- 0
72	2	23	0	32.712	4.8	ON STATION
72	2	24	0	32.686	5.1	ON STATION
72	2	25	0	32.690	5.0	ON STATION
72	2	26	0	32.710	5.0	ON STATION
72	2	27	0	32.685	5.0	ON STATION
72	2	28	0	32.693	5.0	ON STATION
72	2	29	0	32.708	5.2	ON STATION
72	3	1	0	32.670	4.9	ON STATION
72	3	2	0	32.693	4.9	ON STATION
72	3	3	0	32.695	4.7	ON STATION
72	3	4	0	32.703	5.0	ON STATION
72	3	5	0	32.692	4.8	ON STATION
72	3	6	0	32.696	4.8	ON STATION
72	3	7	0	0.0	4.8	ON STATION
72	3	8	0	32.690	4.9	ON STATION
72	3	9	0	32.698	5.2	ON STATION
72	3	10	0	32.660	5.0	ON STATION
72	3	11	0	32.687	5.2	ON STATION
72	3	12	0	32.681	5.0	ON STATION
72	3	13	0	32.665	5.2	ON STATION
72	3	14	0	32.635	5.2	ON STATION
72	3	15	0	32.643	5.2	ON STATION
72	3	16	0	32.658	5.3	ON STATION
72	3	17	0	32.638	5.1	ON STATION
72	3	18	0	32.645	5.4	ON STATION
72	3	19	0	32.650	5.2	ON STATION
72	3	20	0	32.669	5.6	ON STATION
72	3	21	0	32.657	5.0	ON STATION
72	3	22	0	32.639	5.0	ON STATION
72	3	23	0	32.647	5.0	ON STATION
72	3	24	0	32.651	4.7	ON STATION
72	3	25	0	32.653	5.6	ON STATION
72	3	26	0	32.663	5.4	ON STATION
72	3	27	0	32.661	5.3	ON STATION
72	3	28	0	32.630	5.2	ON STATION
72	3	29	0	32.640	5.1	ON STATION

= Temperatures taken from thermograph recorder

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 72- 2

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DAY	GMT	0/00	C	WEST
72	3	29	0	32.640	5.1	ON STATION
72	3	30	0	32.657	5.4	ON STATION
72	3	31	0	0.0	5.6	ON STATION
72	4	1	0	32.642	5.3	ON STATION
72	4	2	0	32.652	5.5	ON STATION
72	4	3	630	32.704	5.5	144-28
72	4	3	1400	32.720	5.7	140-40
72	4	3	2020	32.715	5.7	138-40
72	4	4	400	32.709	5.5	136-40
72	4	4	800	32.677	5.9	134-40
72	4	4	1330	32.527	6.2	132-40
72	4	4	1800	32.654	6.7	130-40
72	4	5	2330	32.446	7.2	128-40
72	4	5	255	32.383	7.4	127-40
72	4	5	700	32.307	8.2	126-40
72	4	5	925	0.0	8.2	126- 0
72	4	5	1110	0.0	8.3	125-33

OCEANOGRAPHIC DATA OBTAINED ON CRUISE P-72-3
(CODC REFERENCE NO. 15-72-003)

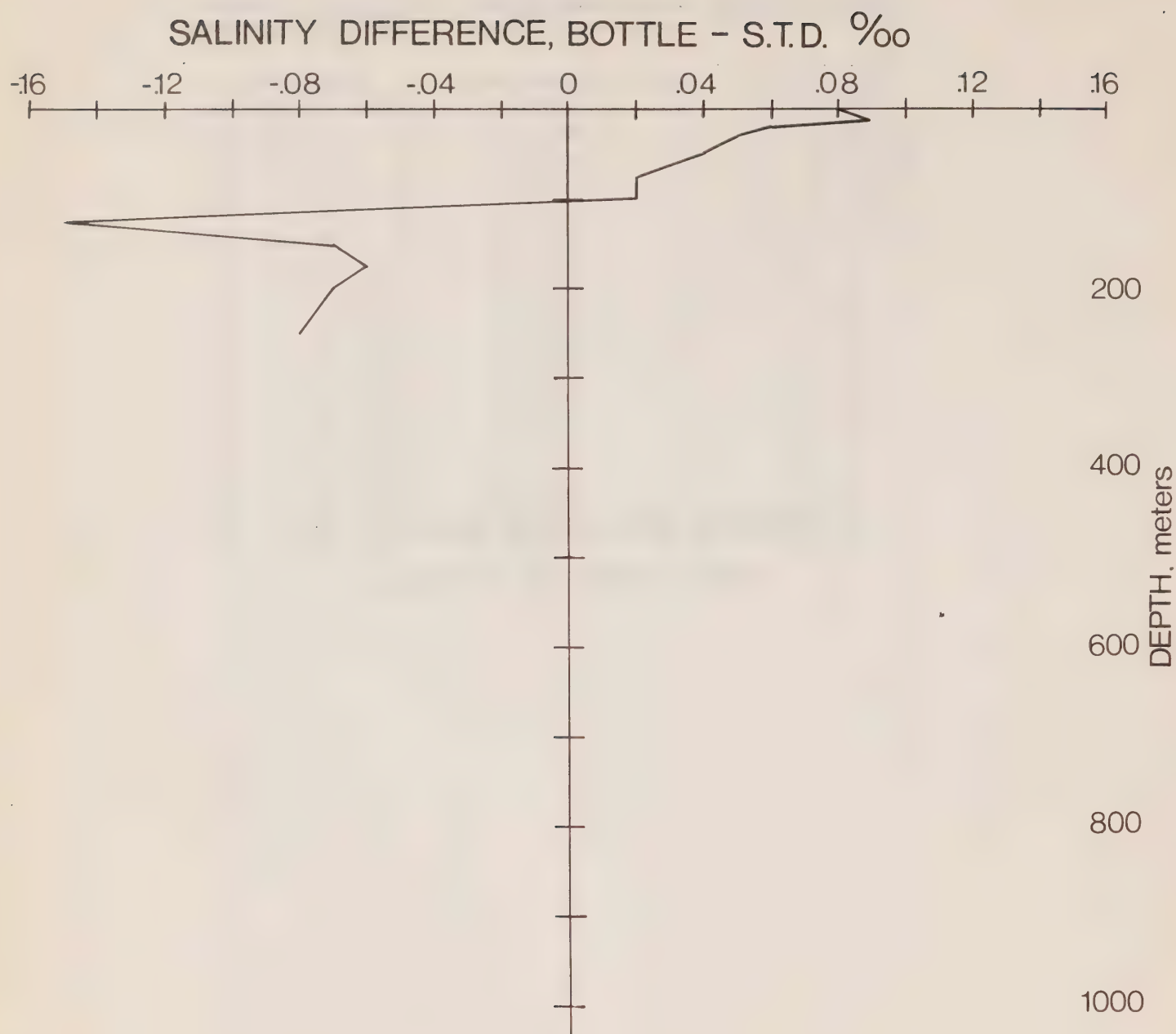


Fig. 16 Bottle - STD salinity value difference profiles P-72-3.
See note in programme of observations P-72-3.

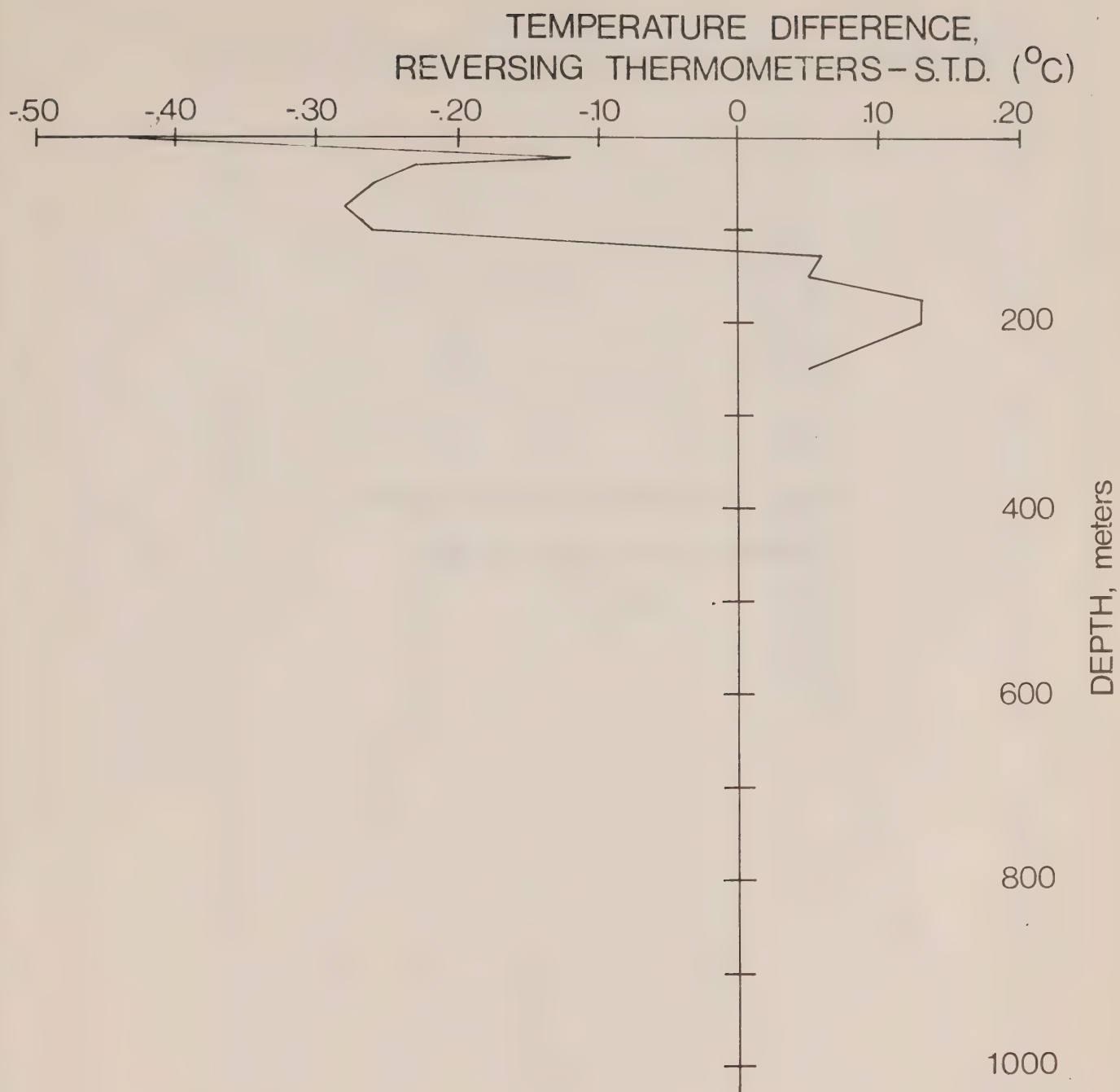


Fig. 17 Reversing thermometer - STD temperature difference profiles P-72-3. See note in programme of observations P-72-3.

COMPOSITE PLOTS OF TEMPERATURE, SALINITY
AND DISSOLVED OXYGEN VS DEPTH
(P-72-3)

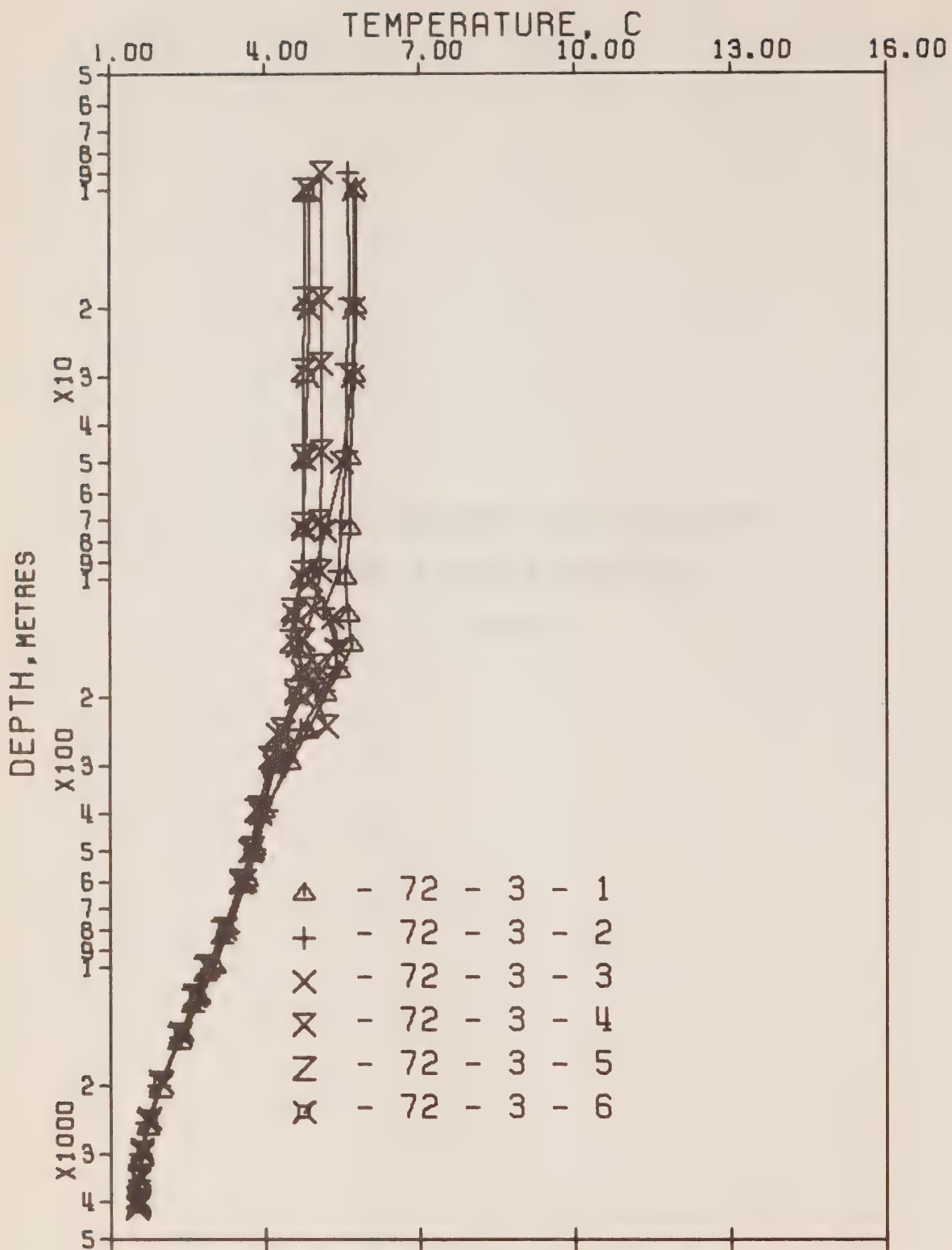


Fig. 18 Composite plot of temperature vs log₁₀ depth P-72-3.

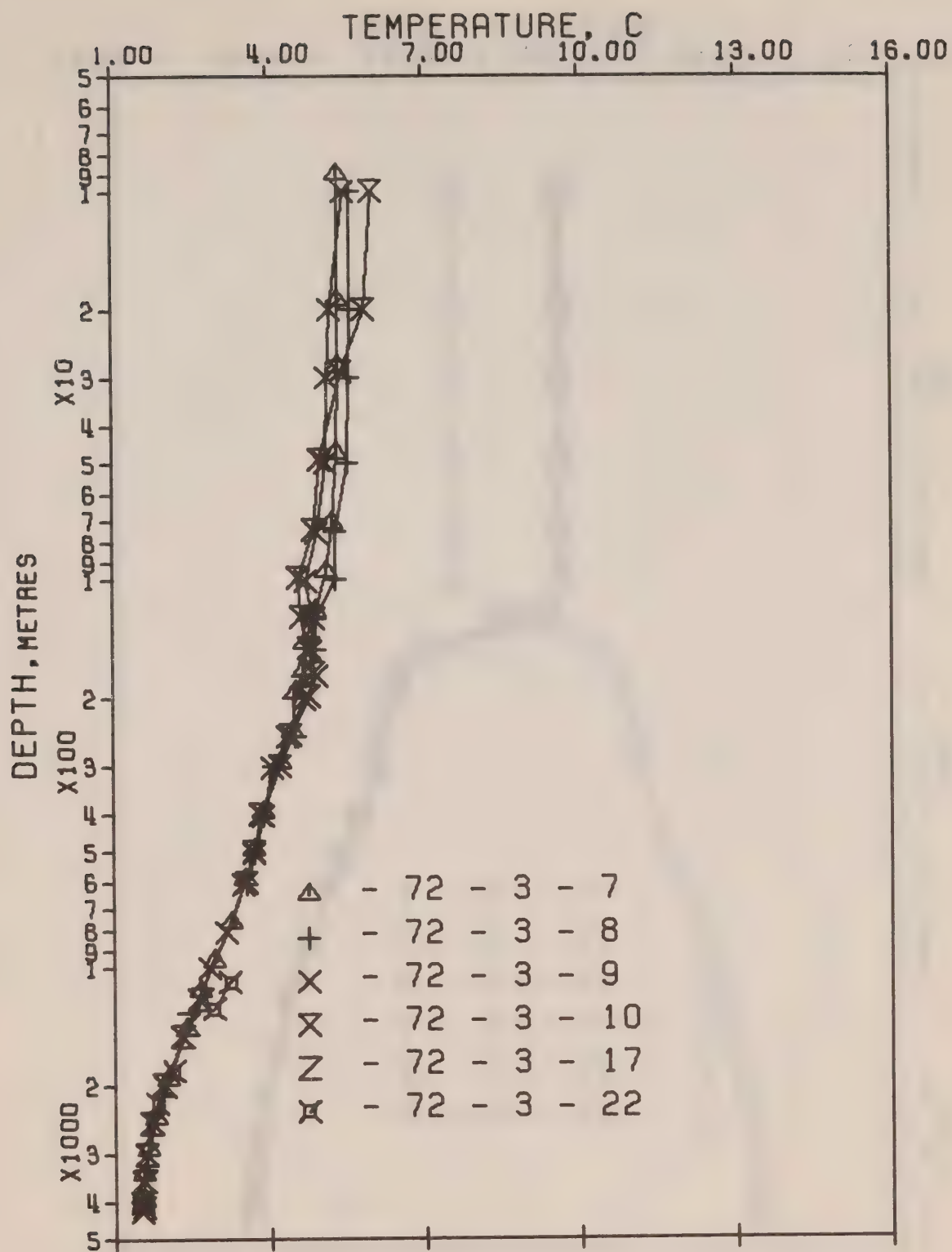


Fig. 19 Composite plot of temperature vs \log_{10} depth P-72-3.

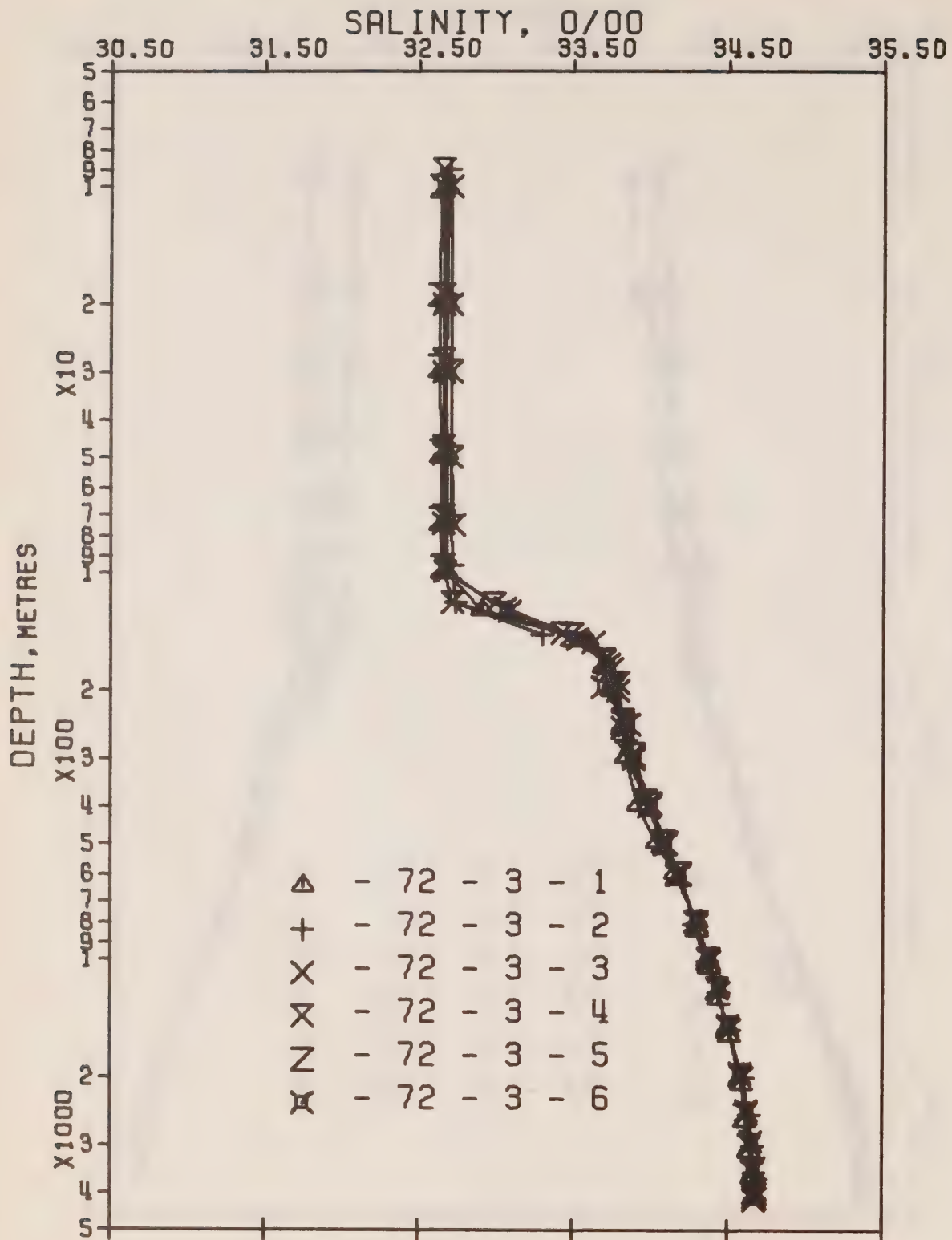


Fig. 20 Composite plot of salinity vs \log_{10} depth P-72-3.

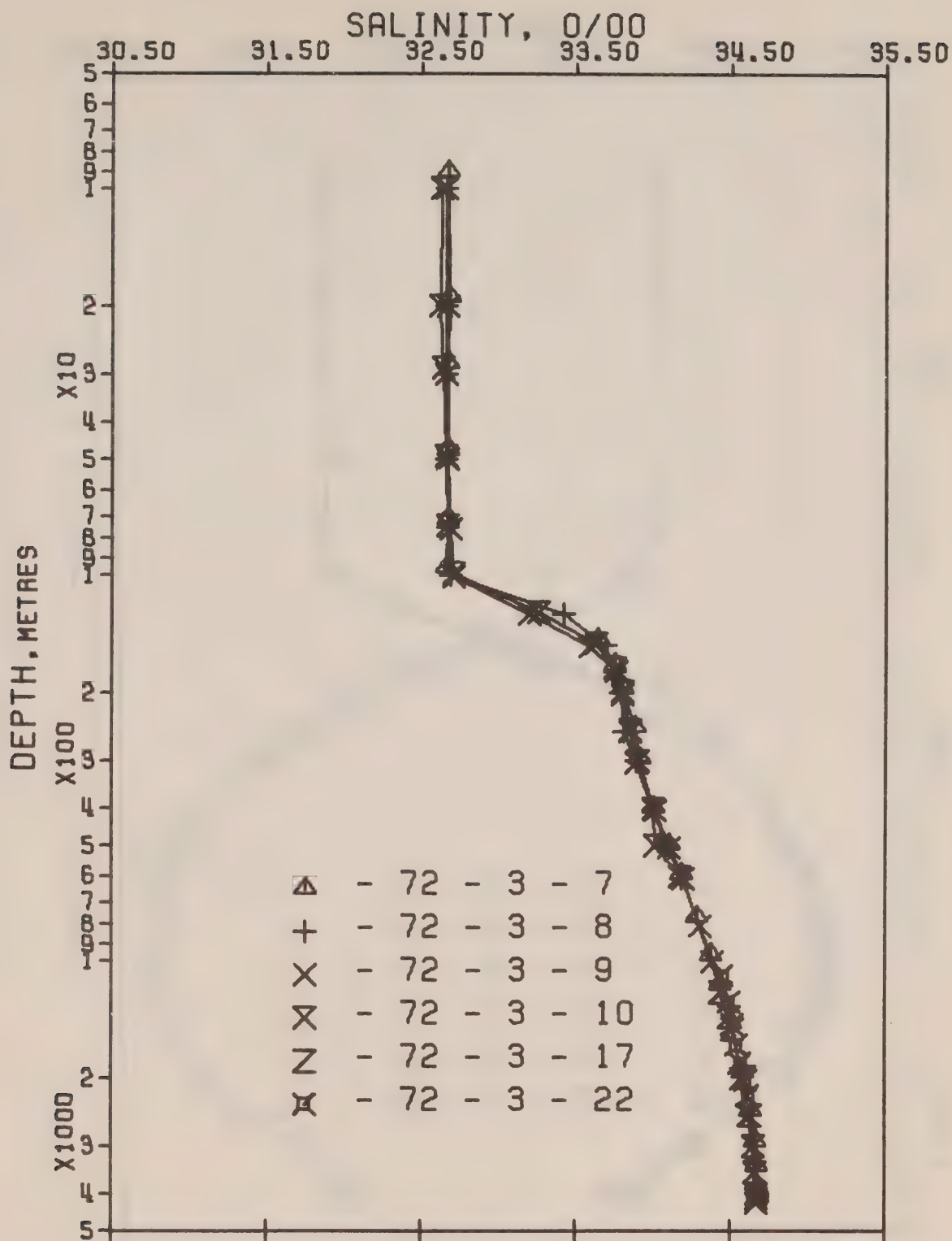


Fig. 21 Composite plot of salinity vs \log_{10} depth P-72-3.

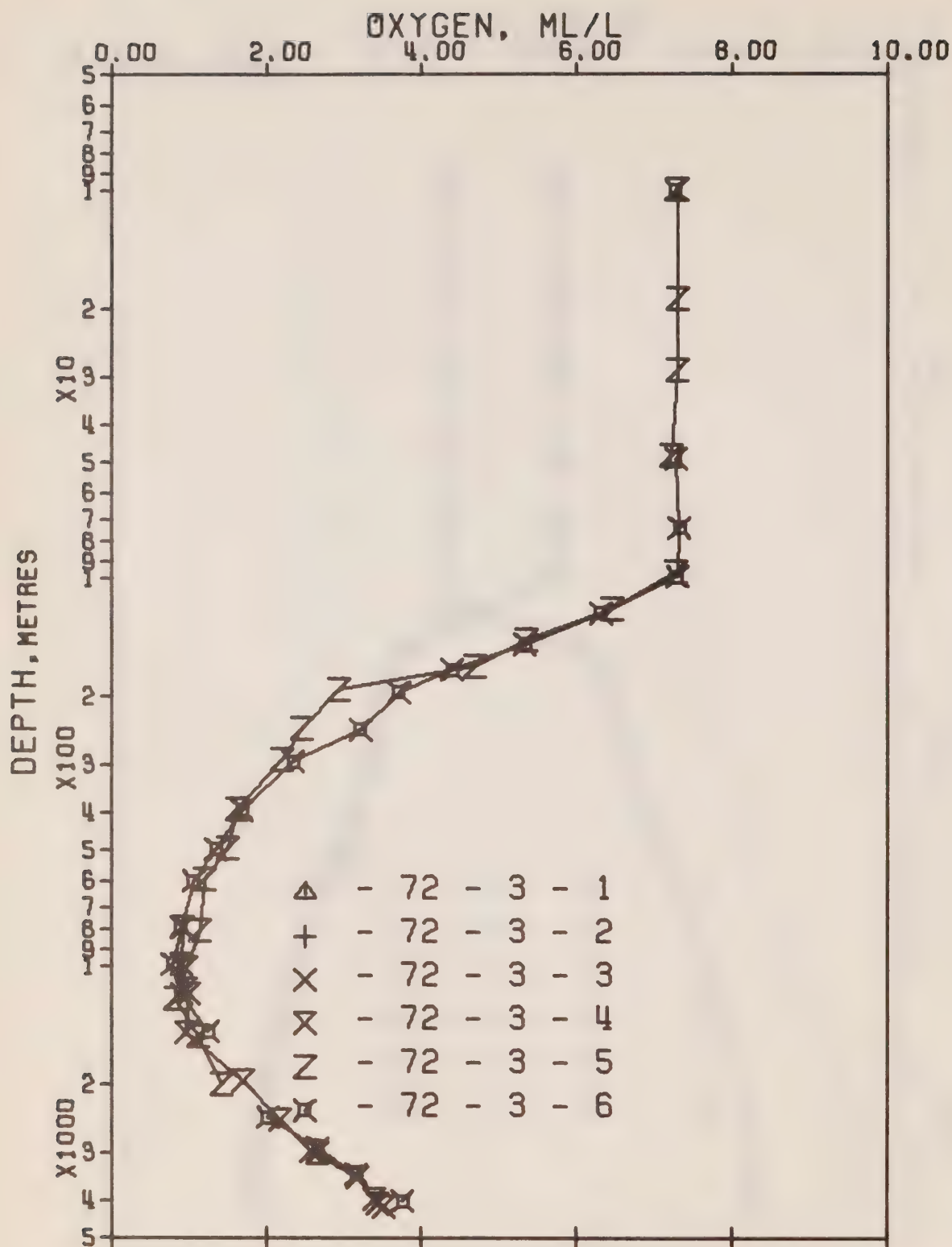


Fig. 22 Composite plot of oxygen vs \log_{10} depth P-72-3.

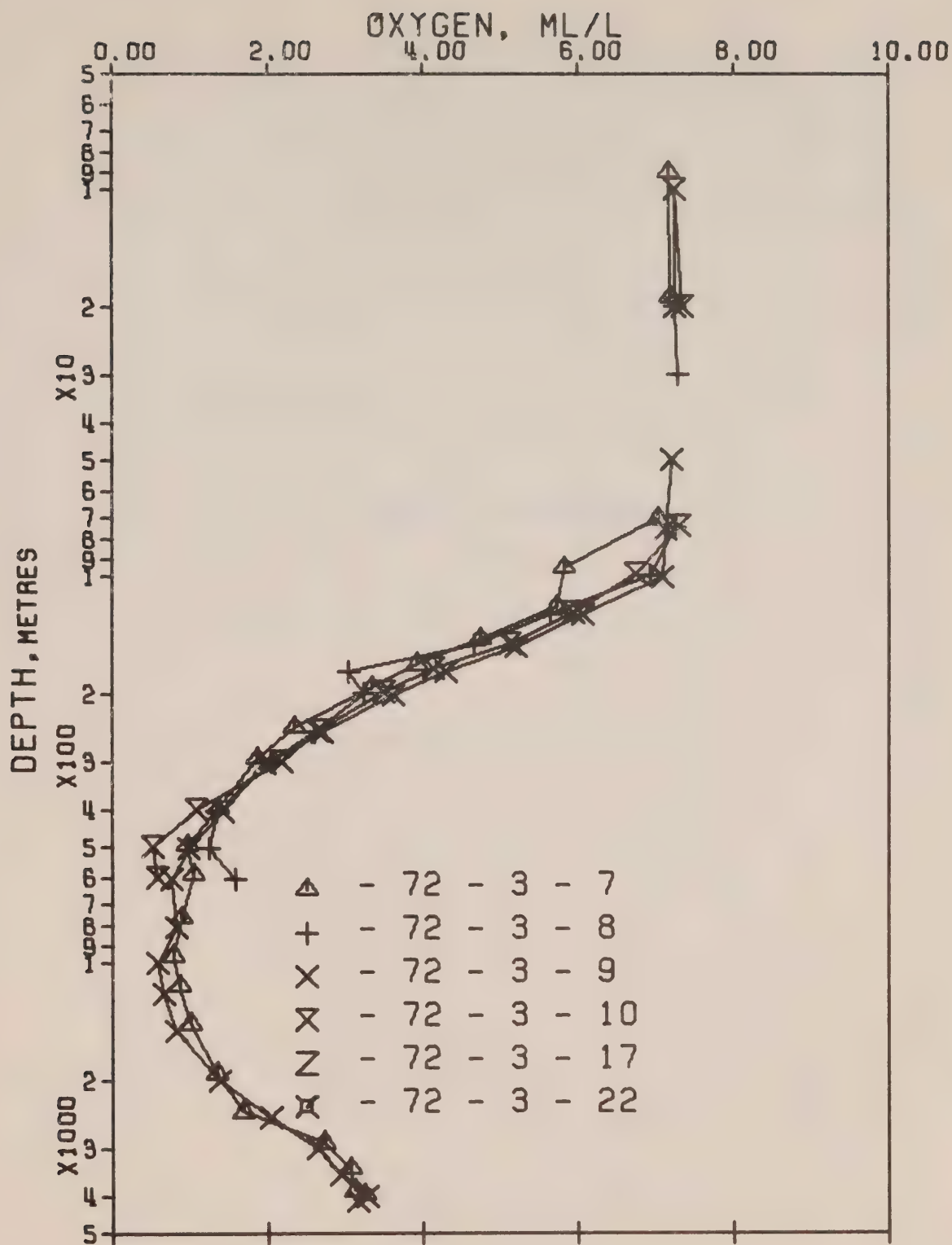
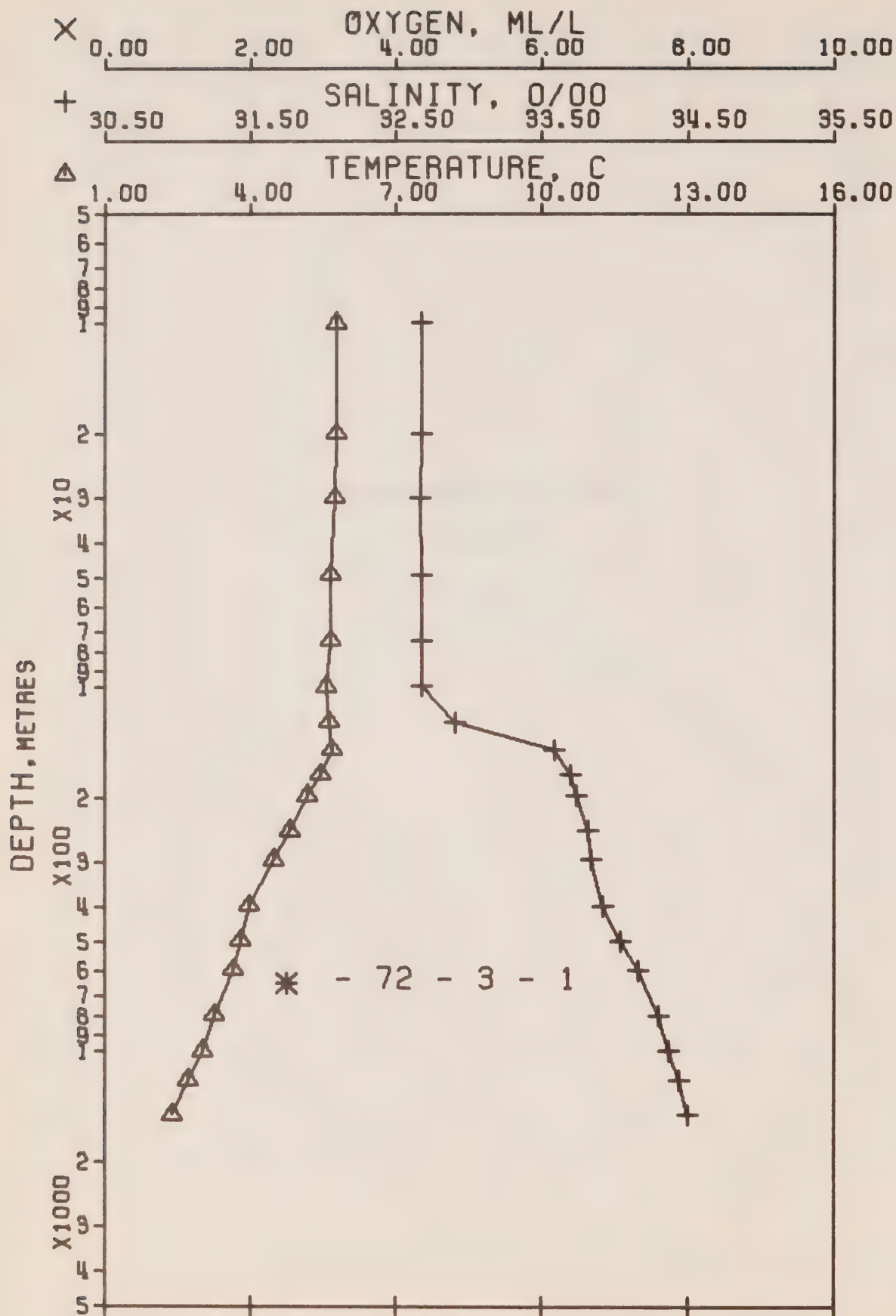


Fig. 23 Composite plot of oxygen vs \log_{10} depth P-72-3.

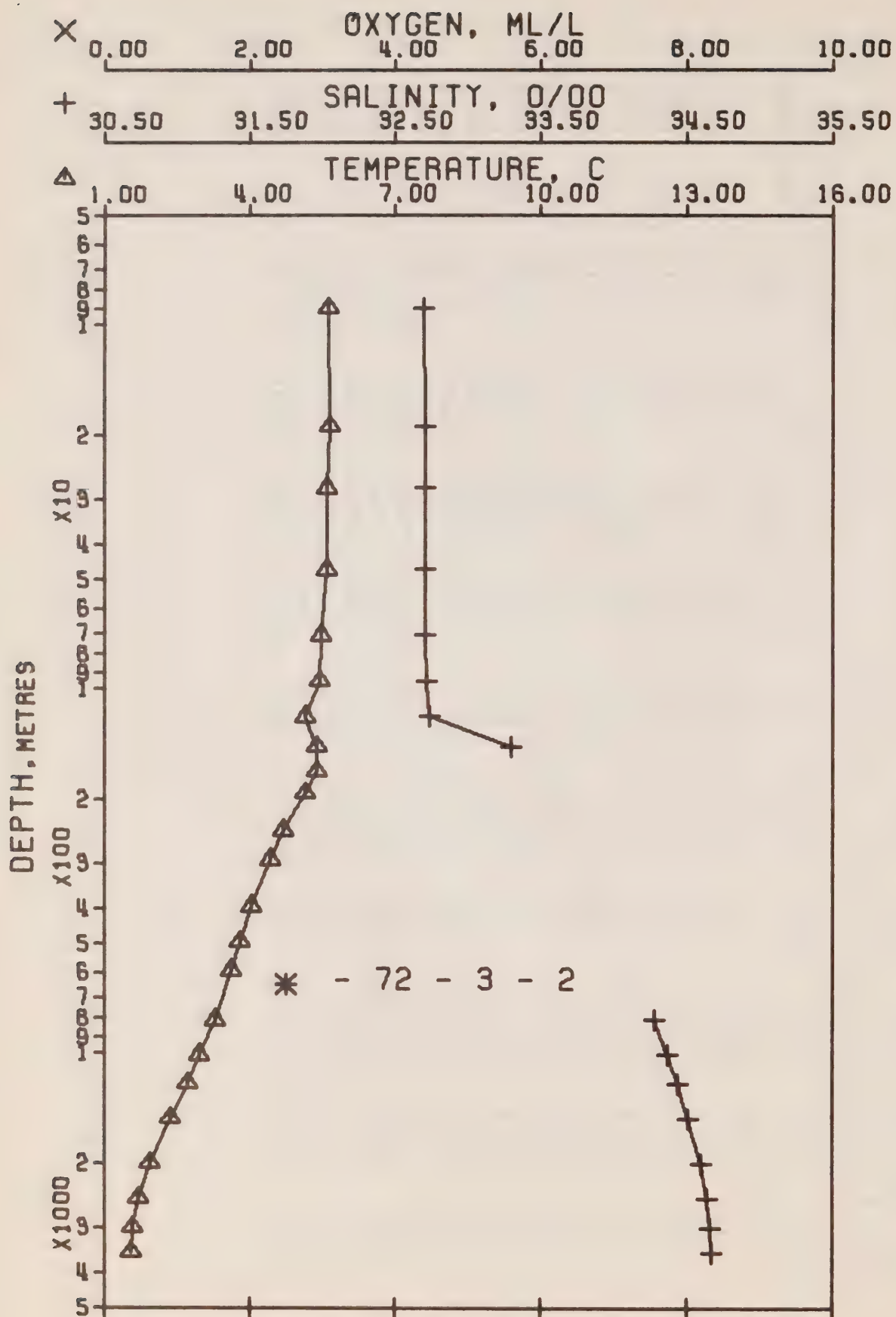
RESULTS OF BOTTLE CASTS

(P-72-3)



OFFSHORE OCEANOGRAPHY GROUP
 REFERENCE NO. 72- 3- 1 DATE 2/ 4/72
 POSITION 49-17.0 N. 134-40.0 W GMT 5.8
 HYDROGRAPHIC CAST DATA

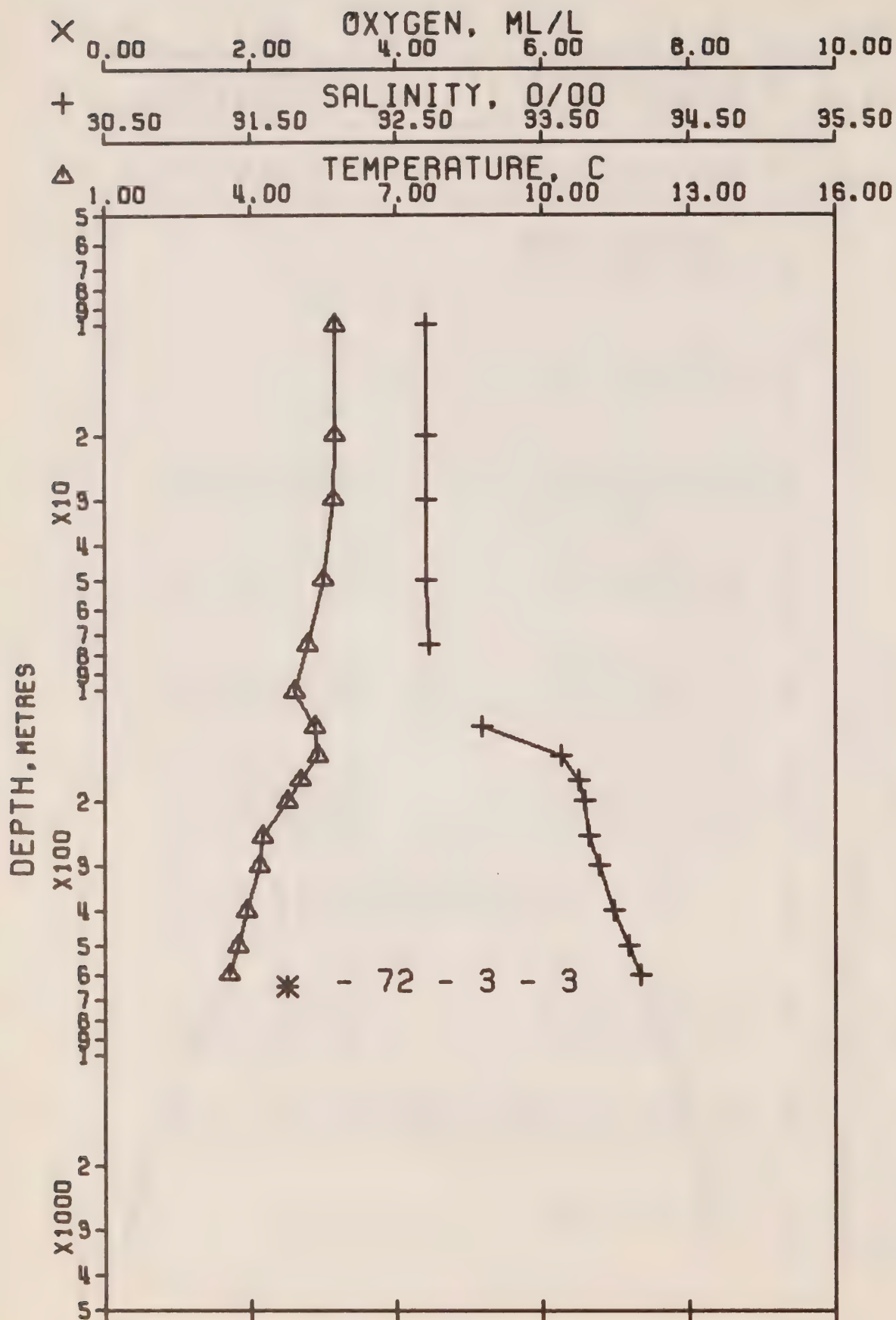
PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	5.75	32.660	0	25.761	224.5	5.75	224.3	0.0	0.0	0.0	1471.
10	5.77	32.681	10	25.775	223.3	5.77	223.0	0.23	0.01	0.0	1471.
20	5.78	32.678	20	25.772	223.7	5.78	223.3	0.45	0.05	0.0	1471.
30	5.75	32.674	30	25.772	223.9	5.75	223.2	0.68	0.10	0.0	1471.
49	5.65	32.676	49	25.786	222.7	5.65	222.0	1.10	0.28	0.0	1471.
74	5.64	32.682	74	25.791	222.4	5.63	221.3	1.66	0.63	0.0	1472.
100	5.56	32.680	99	25.799	221.9	5.55	220.6	2.22	1.13	0.0	1472.
125	5.62	32.911	124	25.975	205.6	5.61	203.9	2.77	1.76	0.0	1473.
149	5.68	33.592	148	26.505	155.6	5.67	153.6	3.21	2.36	0.0	1474.
174	5.44	33.701	173	26.620	145.0	5.43	142.6	3.58	2.97	0.0	1474.
199	5.18	33.739	198	26.680	139.4	5.16	136.8	3.93	3.65	0.0	1473.
249	4.81	33.818	247	26.785	129.8	4.79	126.9	4.60	5.17	0.0	1473.
299	4.47	33.838	297	26.838	125.1	4.45	121.8	5.24	6.96	0.0	1472.
399	3.96	33.917	396	26.954	114.6	3.93	110.8	6.44	11.22	0.0	1472.
499	3.78	34.042	495	27.072	104.2	3.74	99.6	7.53	16.22	0.0	1473.
599	3.64	34.160	594	27.179	94.6	3.60	89.4	8.52	21.77	0.0	1474.
799	3.26	34.296	792	27.324	81.9	3.20	75.5	10.27	34.24	0.0	1476.
1000	3.00	34.375	990	27.411	74.5	2.93	67.1	11.83	48.56	0.0	1478.
1201	2.71	34.440	1189	27.489	67.7	2.63	59.7	13.26	64.60	0.0	1480.
1502	2.37	34.504	1486	27.569	60.7	2.27	52.0	15.19	91.09	0.0	1484.



OFFSHORE OCEANOGRAPHY GROUP

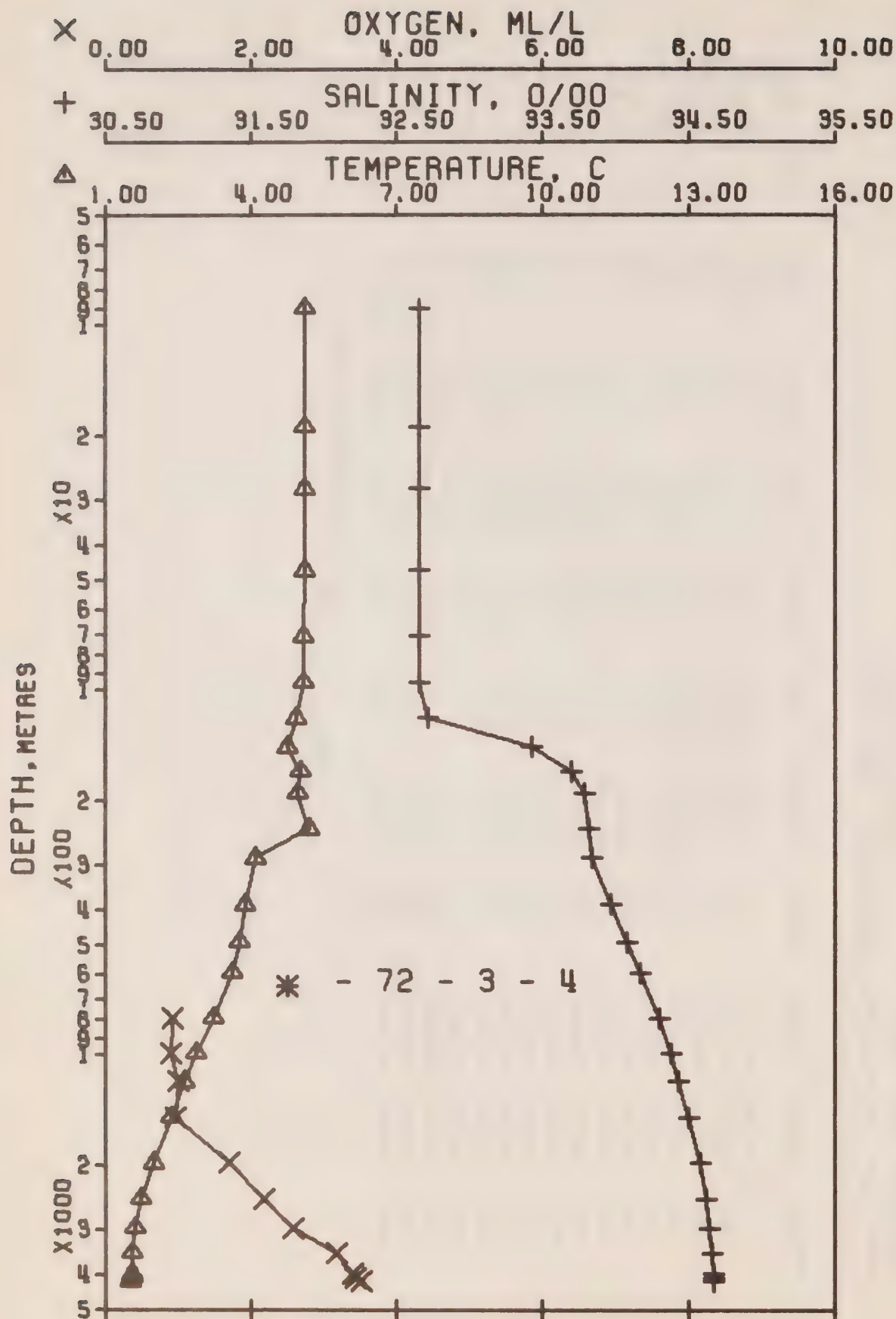
REFERENCE NO. 72- 3- 2 DATE 2/ 4/72
 POSITION 49-26.0 N, 136-40.0 W GMT 1.9
 HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	5.64	32.670	0	25.782	222.5	5.64	222.3	0.0	0.0	0.0	1471.
9	5.63	32.700	9	25.807	220.3	5.63	220.0	0.20	0.01	0.0	1471.
19	5.65	32.707	19	25.810	220.1	5.65	219.7	0.42	0.04	0.0	1471.
28	5.60	32.709	28	25.817	219.5	5.60	219.0	0.62	0.09	0.0	1471.
47	5.58	32.710	47	25.821	219.4	5.58	218.6	1.04	0.25	0.0	1471.
71	5.48	32.710	71	25.832	218.5	5.47	217.5	1.57	0.57	0.0	1471.
96	5.44	32.724	95	25.848	217.2	5.43	216.0	2.10	1.02	0.0	1471.
120	5.15	32.743	119	25.896	212.8	5.14	211.4	2.62	1.60	0.0	1471.
145	5.39	33.304	144	26.312	173.7	5.38	171.9	3.11	2.26	0.0	1473.
	5.37		168						0.0	0.0	
	5.13		193						0.0	0.0	
	4.70		244						0.0	0.0	
	4.42		294						0.0	0.0	
	4.02		395						0.0	0.0	
	3.80		495						0.0	0.0	
	3.62		591						0.0	0.0	
	3.29	34.279	809	27.308	83.6	3.23	77.1			0.0	1476.
	2.96	34.366	1008	27.408	74.9	2.89	67.5			0.0	1478.
	2.70	34.437	1207	27.487	67.9	2.62	59.8			0.0	1481.
	2.35	34.507	1506	27.573	60.4	2.25	51.6			0.0	1484.
	1.92	34.604	2004	27.685	50.4	1.78	40.8			0.0	1491.
	1.70	34.642	2505	27.733	46.7	1.52	36.1			0.0	1499.
	1.56	34.660	3010	27.757	45.1	1.33	33.5			0.0	1507.
	1.55	34.672	3519	27.768	45.6	1.27	32.1			0.0	1516.



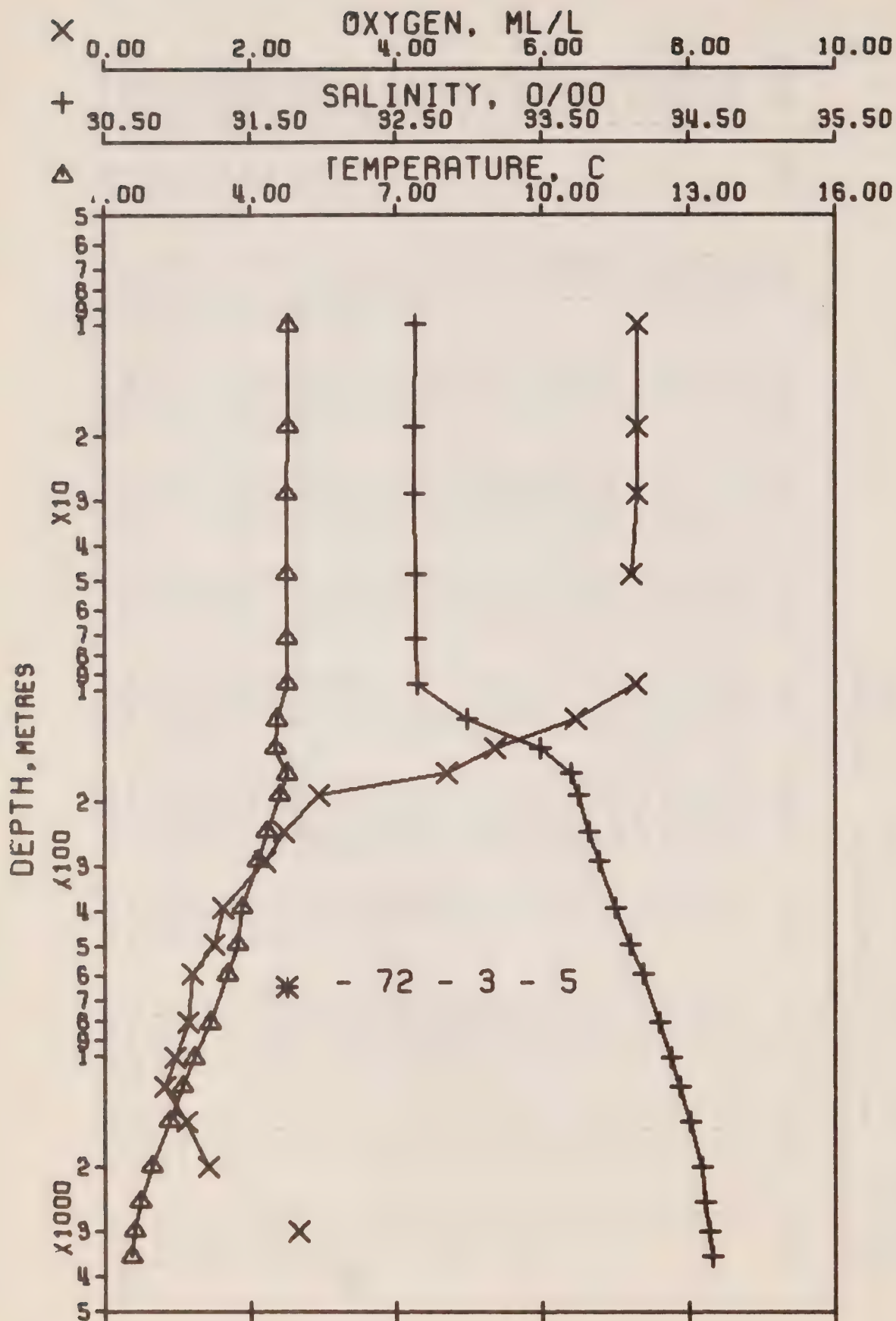
OFFSHORE OCEANOGRAPHY GROUP
 REFERENCE NO. 72- 3- 3 DATE 2/ 4/72
 POSITION 49-34.0 N. 138-40.0 W GMT 21.5
 HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	5.73	32.712	0	25.804	220.5	5.73	220.2	0.0	0.0	0.0	1471.
10	5.73	32.709	10	25.802	220.8	5.73	220.4	0.22	0.01	0.0	1471.
20	5.75	32.712	20	25.802	220.9	5.75	220.4	0.44	0.05	0.0	1471.
30	5.71	32.711	30	25.806	220.6	5.71	220.1	0.67	0.10	0.0	1471.
50	5.51	32.713	50	25.831	218.4	5.51	217.6	1.11	0.28	0.0	1471.
75	5.17	32.734	75	25.887	213.3	5.16	212.3	1.65	0.63	0.0	1470.
102	4.90	32.825*	101	25.989	203.8	4.89	202.6	2.20	1.13	0.0	1469.
127	5.32	33.089	126	26.150	188.9	5.31	187.3	2.70	1.71	0.0	1472.
152	5.39	33.634	151	26.573	149.2	5.38	147.1	3.13	2.31	0.0	1473.
177	5.02	33.754	176	26.711	136.2	5.01	134.0	3.48	2.91	0.0	1472.
202	4.75	33.787	201	26.767	131.0	4.73	128.6	3.81	3.56	0.0	1472.
253	4.24	33.816	251	26.845	123.8	4.22	121.2	4.46	5.04	0.0	1470.
304	4.19	33.895	302	26.913	117.9	4.17	114.8	5.08	6.81	0.0	1471.
405	3.92	33.990	402	27.016	108.8	3.89	104.9	6.22	10.93	0.0	1472.
505	3.72	34.090	501	27.116	100.0	3.68	95.4	7.26	15.77	0.0	1473.
604	3.55	34.169	599	27.195	93.0	3.51	87.8	8.21	21.16	0.0	1474.



OFFSHORE OCEANOGRAPHY GROUP
 REFERENCE NO. 72- 3- 4 DATE 10/ 4/72
 POSITION 49-57.0 N. 144-55.0 W GMT 18.3
 HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	5.12	32.663	0	25.836	217.4	5.12	217.2	0.0	0.0	0.0	1468.
9	5.11	32.658	9	25.834	217.7	5.11	217.4	0.20	0.01	0.0	1468.
19	5.10	32.658	19	25.835	217.7	5.10	217.3	0.42	0.04	0.0	1469.
28	5.10	32.659	28	25.836	217.7	5.10	217.2	0.61	0.09	0.0	1469.
47	5.10	32.659	47	25.836	217.9	5.10	217.2	1.03	0.25	0.0	1469.
71	5.08	32.658	71	25.837	217.9	5.07	217.1	1.56	0.57	0.0	1469.
96	5.09	32.664	95	25.841	217.9	5.08	216.7	2.08	1.02	0.0	1470.
120	4.93	32.716	119	25.899	212.5	4.92	211.1	2.61	1.60	0.0	1470.
144	4.74	33.433	143	26.488	156.9	4.73	155.2	3.06	2.20	0.0	1470.
168	5.03	33.705	167	26.671	139.9	5.02	137.8	3.41	2.76	0.0	1472.
192	4.97	33.786	191	26.742	133.5	4.95	131.1	3.74	3.36	0.0	1472.
242	5.21	33.824	240	26.744	133.8	5.19	130.8	4.40	4.82	0.0	1474.
291	4.10	33.845	289	26.883	120.5	4.08	117.7	5.03	6.53	0.0	1470.
391	3.89	33.972	388	27.005	109.7	3.86	106.0	6.17	10.49	0.0	1471.
494	3.76	34.076	490	27.101	101.3	3.72	96.9	7.25	15.38	0.0	1473.
599	3.60	34.171	594	27.192	93.4	3.56	88.1	8.27	21.08	0.0	1474.
799	3.21	34.296	792	27.329	81.3	3.15	75.1	10.01	33.47	0.91	1476.
996	2.87	34.376	986	27.424	73.0	2.80	66.0	11.52	47.27	0.90	1478.
1194	2.63	34.435	1182	27.492	67.1	2.55	59.5	12.91	62.75	1.01	1480.
1494	2.34	34.501	1478	27.569	60.6	2.24	52.0	14.81	88.90	0.96	1484.
2000	1.99	34.578	1976	27.659	53.0	1.85	43.3	17.67	139.68	1.69	1491.
2513	1.73	34.620	2479	27.713	48.6	1.55	38.0	20.25	199.16	2.18	1498.
3026	1.61	34.644	2982	27.741	46.8	1.39	35.0	22.69	268.05	2.59	1506.
3538	1.54	34.661	3482	27.760	46.1	1.27	32.9	25.06	347.31	3.18	1515.
4046	1.53	34.674	3978	27.771	46.4	1.20	31.5	27.39	437.57	3.40	1524.
4147	1.53	34.670	4076	27.768	46.9	1.19	31.7	27.86	457.19	3.43	1525.
4247	1.52	34.672	4174	27.770	46.9	1.17	31.5	28.34	477.41	3.53	1527.



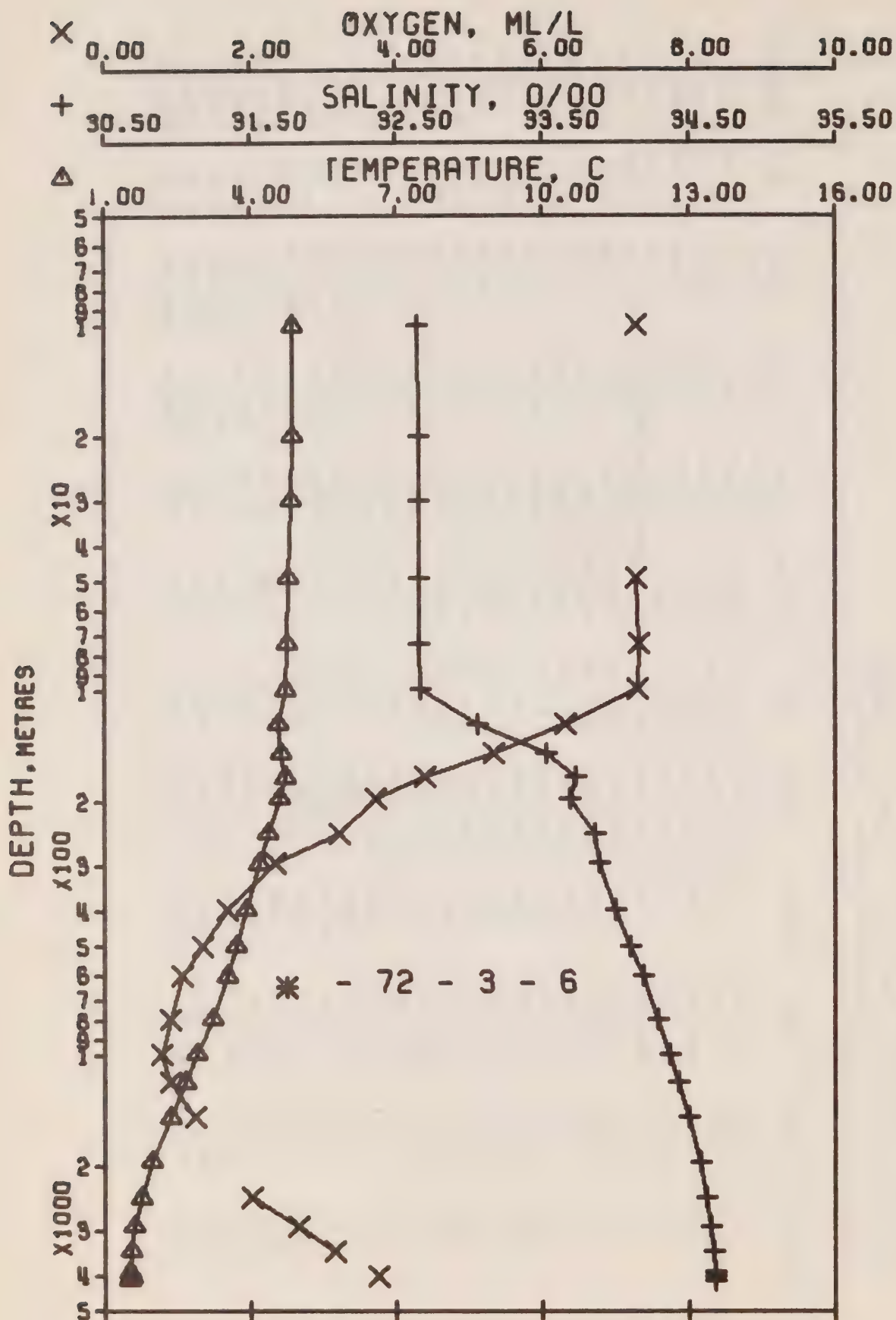
OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 3- 5 DATE 21/ 4/72

POSITION 50- 0.0 N. 145- 0.0 W GMT 17.8

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	4.78	32.622	0	25.842	216.9	4.78	216.7	0.0	0.0	7.47	1467.
10	4.77	32.636	10	25.854	215.8	4.77	215.5	0.22	0.01	7.29	1467.
19	4.77	32.631	19	25.850	216.3	4.77	215.9	0.41	0.04	7.30	1467.
29	4.76	32.630	29	25.850	216.4	4.76	215.9	0.63	0.09	7.29	1467.
48	4.75	32.636	48	25.856	216.0	4.75	215.3	1.04	0.26	7.23	1468.
72	4.74	32.641	72	25.861	215.6	4.73	214.8	1.57	0.58	0.0	1468.
97	4.75	32.651	96	25.868	215.2	4.74	214.1	2.09	1.03	7.27	1468.
121	4.54	32.990	120	26.159	187.8	4.53	186.4	2.58	1.58	6.47	1468.
145	4.51	33.492	144	26.560	150.0	4.50	148.4	2.99	2.13	5.36	1469.
170	4.74	33.699	169	26.699	137.2	4.73	135.2	3.35	2.70	4.71	1471.
194	4.59	33.753	193	26.758	131.8	4.58	129.5	3.67	3.30	2.94	1471.
245	4.32	33.817	243	26.837	124.5	4.30	121.9	4.31	4.74	2.46	1471.
294	4.16	33.887	292	26.910	118.0	4.14	115.0	4.91	6.39	2.20	1471.
396	3.82	34.003	393	27.037	106.6	3.79	103.0	6.05	10.40	1.62	1471.
499	3.74	34.100	495	27.122	99.4	3.70	94.9	7.11	15.23	1.51	1473.
603	3.51	34.187	598	27.214	91.3	3.47	86.1	8.10	20.80	1.20	1474.
817	3.17	34.299	809	27.335	80.8	3.11	74.5	9.92	34.00	1.13	1476.
1018	2.94	34.380	1008	27.430	72.6	2.77	65.4	11.47	48.39	0.97	1478.
1219	2.60	34.442	1206	27.500	66.5	2.52	58.6	12.86	64.24	0.81	1480.
1522	2.32	34.510	1505	27.578	59.8	2.22	51.1	14.76	90.88	1.11	1484.
2028	1.95	34.591	2003	27.673	51.7	1.81	41.9	17.56	141.37	1.41	1491.
2538	1.72	34.614	2504	27.709	49.0	1.54	38.3	20.11	200.87	0.0	1499.
3056	1.59	34.645	3011	27.743	46.6	1.36	34.8	22.57	271.14	2.66	1507.
3582	1.53	34.657	3525	27.757	46.3	1.25	33.1	25.01	353.64	0.0	1516.



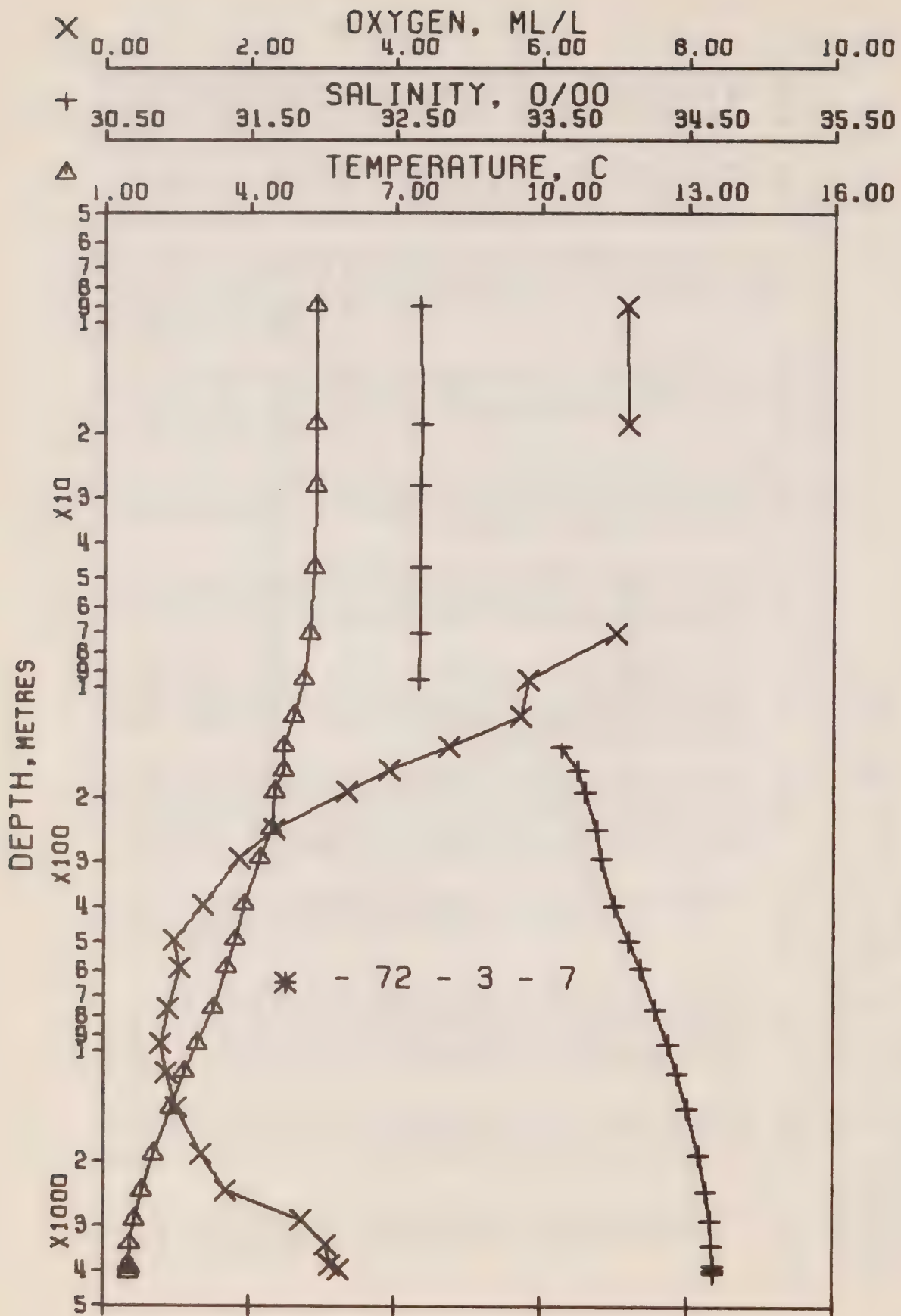
OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 3- 6 DATE 26/ 4/72

POSITION 49-59.0 N. 145- 0.0 W GMT 18.9

HYDROGRAPHIC CAST DATA

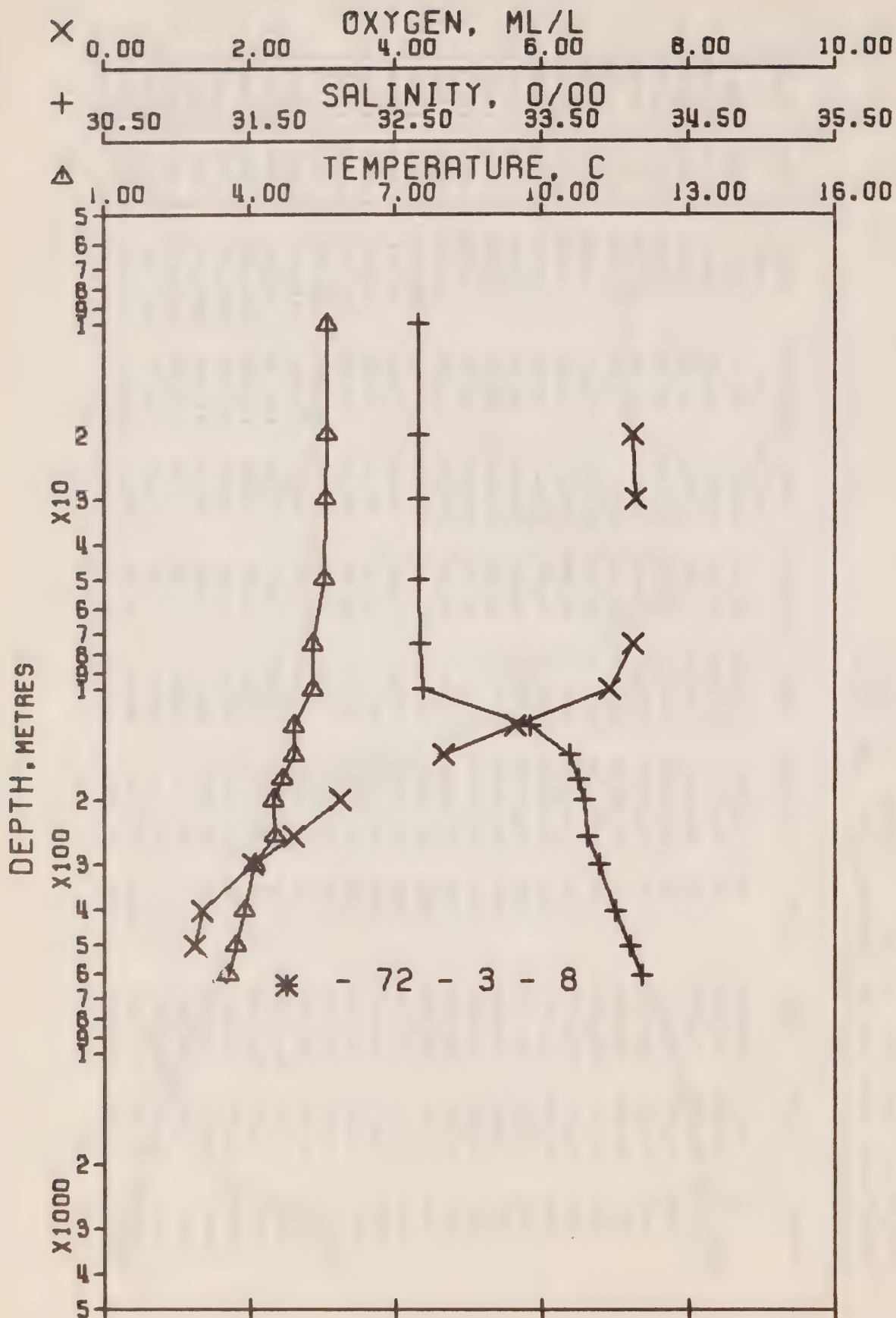
PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	4.77	32.655	0	25.869	214.3	4.77	214.1	0.0	0.0	7.21	1467.
10	4.86	32.654	10	25.858	215.4	4.86	215.1	0.22	0.01	7.28	1467.
20	4.86	32.660	20	25.863	215.0	4.86	214.6	0.43	0.04	0.0	1468.
30	4.85	32.656	30	25.861	215.3	4.85	214.8	0.65	0.10	0.0	1468.
49	4.78	32.661	49	25.872	214.4	4.78	213.7	1.06	0.27	7.28	1468.
74	4.74	32.659	74	25.875	214.3	4.73	213.4	1.60	0.61	7.33	1468.
100	4.73	32.671	99	25.886	213.5	4.72	212.4	2.14	1.09	7.29	1468.
124	4.57	33.062	123	26.212	182.7	4.56	181.4	2.63	1.64	6.32	1469.
149	4.62	33.526	148	26.575	148.7	4.61	147.0	3.04	2.22	5.34	1470.
173	4.72	33.727	172	26.723	134.9	4.71	132.9	3.38	2.77	4.41	1471.
198	4.60	33.692	197	26.708	136.5	4.59	134.2	3.72	3.42	3.71	1471.
248	4.35	33.860	246	26.868	121.7	4.33	119.0	4.36	4.87	3.22	1471.
298	4.17	33.891	296	26.912	117.9	4.15	114.9	4.96	6.55	2.34	1471.
399	3.90	34.004	396	27.029	107.4	3.87	103.6	6.10	10.58	1.68	1472.
502	3.71	34.098	498	27.123	99.3	3.67	94.7	7.16	15.47	1.34	1473.
608	3.53	34.188	603	27.212	91.4	3.49	86.2	8.17	21.18	1.05	1474.
797	3.21	34.295	790	27.328	81.4	3.15	75.2	9.80	32.82	0.90	1476.
995	2.90	34.371	985	27.417	73.7	2.83	66.6	11.32	46.75	0.78	1478.
1192	2.65	34.432	1180	27.488	67.6	2.57	59.8	12.72	62.28	0.89	1480.
1486	2.34	34.505	1470	27.572	60.3	2.24	51.7	14.59	87.85	1.24	1484.
1978	1.95	34.580	1954	27.664	52.3	1.81	42.8	17.33	136.21	0.0	1490.
2472	1.76	34.625	2439	27.714	48.5	1.58	37.8	19.80	192.36	2.02	1498.
2969	1.61	34.654	2926	27.749	46.0	1.39	34.3	22.14	257.16	2.67	1505.
3471	1.54	34.668	3417	27.765	45.5	1.27	32.5	24.43	332.25	3.17	1514.
3981	1.52	34.677	3915	27.774	45.8	1.20	31.3	26.74	420.21	0.0	1522.
4085	1.54	34.680	4016	27.775	46.3	1.21	31.1	27.22	439.86	3.77	1524.
4189	1.52	34.683	4117	27.779	45.9	1.18	30.6	27.70	460.04	0.0	1526.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 3- 7 DATE 1/ 5/72
 POSITION 50- 2.0 N, 144-59.0 W GMT 18.6
 HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	5.35	32.672	0	25.817	219.2	5.35	219.0	0.0	0.0	7.06	1469.
9	5.36	32.672	9	25.816	219.4	5.36	219.1	0.20	0.01	7.17	1470.
19	5.36	32.679	19	25.822	218.9	5.36	218.5	0.42	0.04	7.19	1470.
28	5.35	32.673	28	25.818	219.4	5.35	218.9	0.62	0.09	0.0	1470.
47	5.32	32.675	47	25.823	219.1	5.32	218.3	1.04	0.25	0.0	1470.
71	5.24	32.674	71	25.832	218.5	5.23	217.5	1.57	0.57	7.01	1470.
96	5.11	32.665	95	25.839	218.0	5.10	216.8	2.10	1.03	5.83	1470.
121	4.89	33.133*	120	26.234	180.7	4.88	179.3	2.61	1.58	5.71	1470.
146	4.68	33.642	145	26.660	140.5	4.67	138.8	3.01	2.13	4.74	1470.
170	4.68	33.754	169	26.749	132.4	4.67	130.4	3.33	2.65	3.93	1471.
195	4.52	33.802	194	26.804	127.3	4.51	125.2	3.66	3.26	3.33	1471.
247	4.46	33.882	245	26.874	121.2	4.44	118.5	4.30	4.70	2.34	1471.
297	4.21	33.914	295	26.926	116.6	4.19	113.5	4.89	6.36	1.85	1471.
399	3.87	34.005	396	27.033	107.0	3.84	103.3	6.03	10.40	1.35	1471.
499	3.71	34.101	495	27.126	99.0	3.67	94.5	7.06	15.11	0.95	1473.
595	3.52	34.181	590	27.208	91.7	3.48	86.7	7.98	20.20	1.04	1473.
770	3.26	34.281	763	27.312	82.8	3.21	76.6	9.50	30.79	0.88	1475.
962	2.92	34.368	953	27.413	73.9	2.85	67.0	11.00	44.05	0.78	1477.
1157	2.66	34.435	1145	27.489	67.3	2.58	59.7	12.37	58.82	0.86	1479.
1451	2.37	34.500	1435	27.566	60.8	2.27	52.3	14.24	83.72	1.00	1483.
1948	2.03	34.580	1924	27.657	53.2	1.90	43.5	17.05	132.42	1.34	1490.
2448	1.77	34.629	2416	27.717	48.2	1.60	37.6	19.57	188.95	1.68	1497.
2949	1.62	34.656	2907	27.750	45.9	1.40	34.2	21.92	253.47	2.72	1505.
3446	1.54	34.667	3393	27.764	45.4	1.28	32.5	24.18	327.23	3.06	1513.
3935	1.52	34.681	3870	27.777	45.4	1.20	31.0	26.39	410.42	3.12	1522.
4032	1.53	34.683	3964	27.778	45.7	1.20	30.8	26.83	428.27	3.23	1523.
4127	1.52	34.683	4057	27.779	45.8	1.18	30.6	27.27	446.43	0.0	1525.



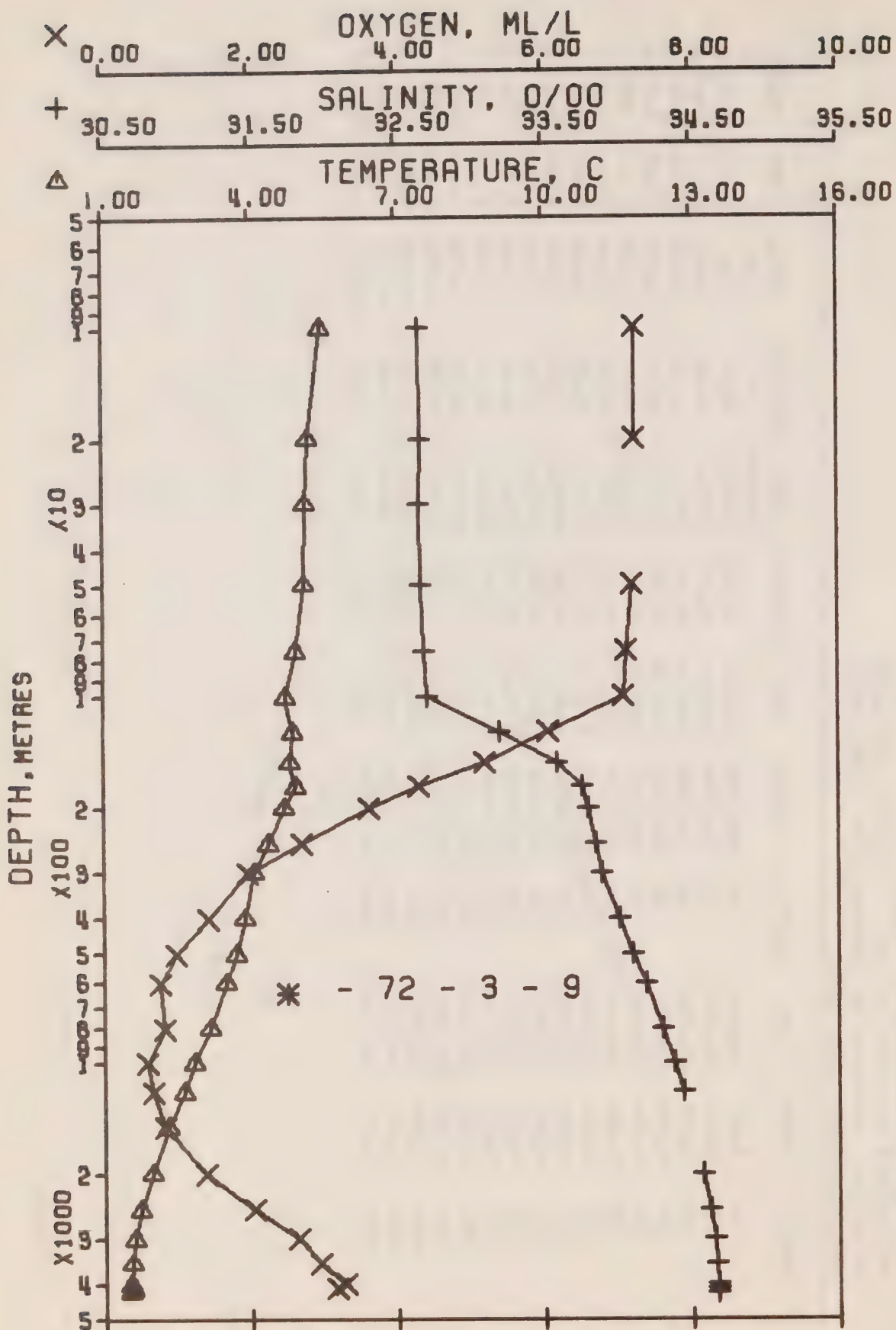
OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 3- 8 DATE 5/ 5/72

POSITION 49-56.0 N, 144-56.0 W GMT 19.5

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	5.61	32.662	0	25.779	222.8	5.61	222.6	0.0	0.0	7.15	1470.
10	5.59	32.658	10	25.778	223.0	5.59	222.7	0.22	0.01	0.0	1470.
20	5.58	32.658	20	25.780	223.0	5.58	222.5	0.45	0.05	7.24	1471.
30	5.56	32.662	30	25.785	222.6	5.56	222.1	0.67	0.10	7.28	1471.
50	5.54	32.662	50	25.787	222.5	5.54	221.8	1.12	0.29	0.0	1471.
75	5.29	32.666	75	25.820	219.7	5.28	218.7	1.68	0.64	7.24	1470.
101	5.28	32.695	100	25.844	217.7	5.27	216.4	2.24	1.15	6.93	1471.
127	4.90	33.416	126	26.457	159.7	4.89	158.2	2.73	1.72	5.64	1471.
152	4.90	33.695	151	26.678	139.1	4.89	137.2	3.10	2.25	4.66	1471.
177	4.66	33.747	176	26.745	132.8	4.65	130.7	3.44	2.82	0.0	1471.
202	4.48	33.793	201	26.801	127.6	4.46	125.4	3.77	3.45	3.25	1471.
254	4.52	33.809	252	26.810	127.3	4.50	124.5	4.42	4.98	2.60	1472.
304	4.09	33.889	302	26.919	117.2	4.07	114.2	5.04	6.73	2.04	1471.
406	3.89	33.999	403	27.026	107.8	3.86	103.9	6.18	10.86	1.35	1472.
508	3.71	34.096	504	27.122	99.4	3.67	94.9	7.23	15.77	1.24	1473.
609	3.54	34.180	604	27.205	92.2	3.50	86.9	8.20	21.27	0.0	1474.



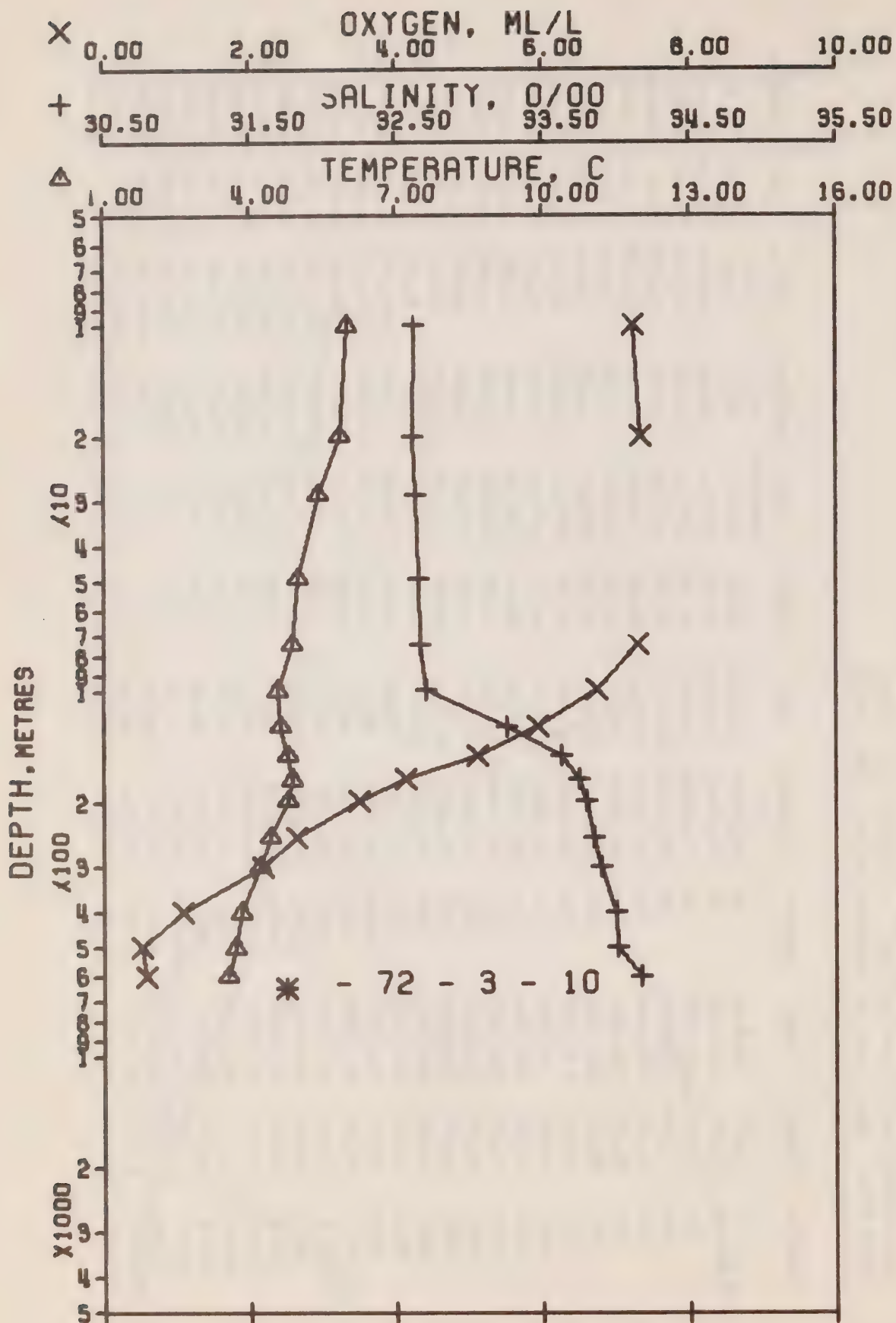
OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 3- 9 DATE 8/ 5/72

POSITION 50- 0.0 N, 144-59.0 W GMT 19.9

HYDROGRAPHIC CAST DATA

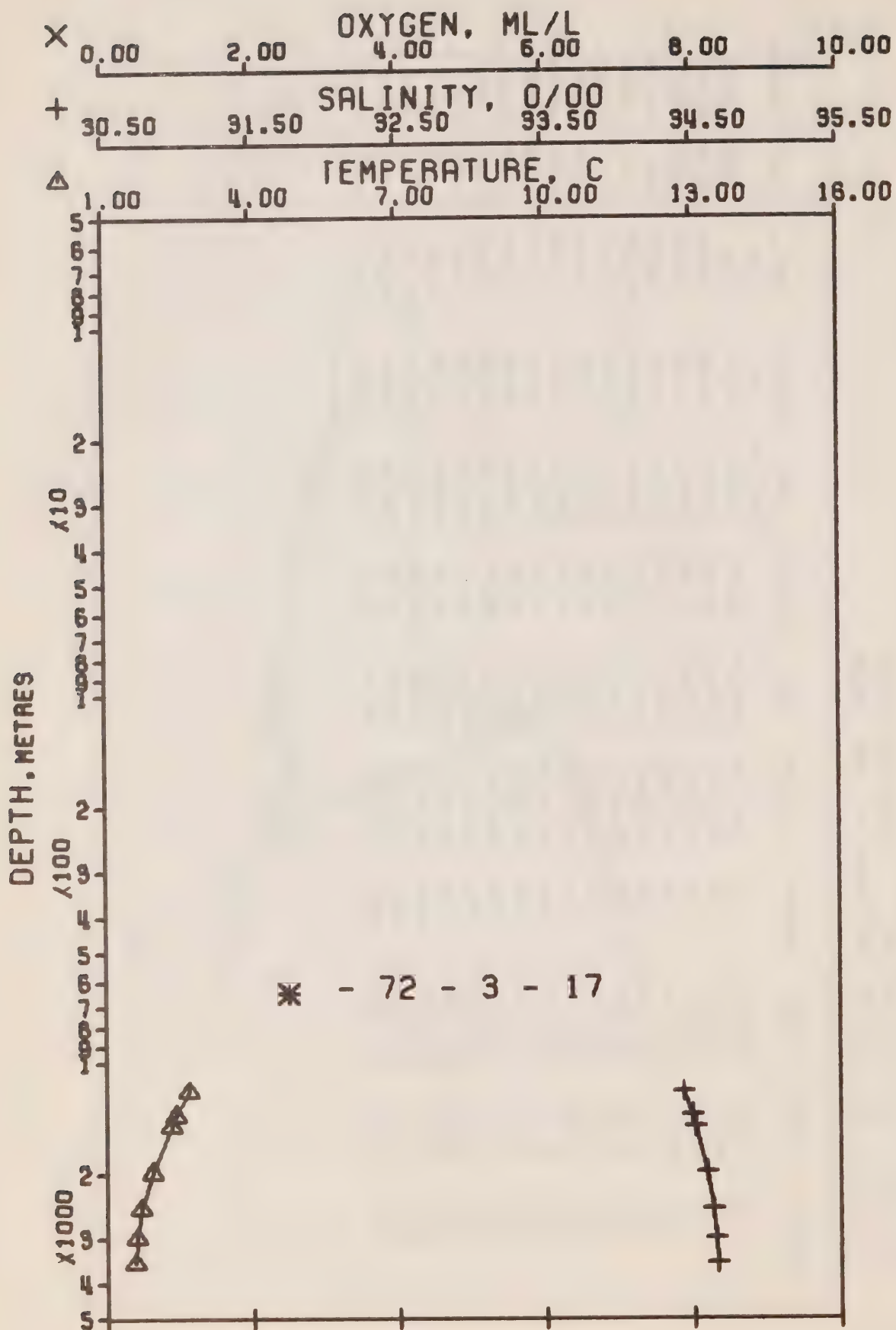
PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	5.57	32.635	0	25.763	224.4	5.57	224.1	0.0	0.0	7.15	1470.
10	5.47	32.660	10	25.794	221.5	5.47	221.1	0.22	0.01	7.24	1470.
20	5.19	32.667	20	25.832	218.0	5.19	217.6	0.45	0.05	7.24	1469.
30	5.14	32.665	30	25.836	217.7	5.14	217.2	0.66	0.10	0.0	1469.
50	5.10	32.668	50	25.843	217.3	5.10	216.5	1.10	0.28	7.19	1469.
76	4.92	32.688	76	25.878	214.1	4.91	213.1	1.67	0.65	7.11	1469.
102	4.73	32.710	101	25.917	210.6	4.72	209.5	2.21	1.14	7.08	1468.
127	4.86	33.204	126	26.293	175.2	4.85	173.7	2.70	1.71	6.07	1470.
153	4.82	33.592	152	26.605	145.9	4.81	144.1	3.11	2.30	5.21	1471.
178	4.94	33.764	177	26.728	134.6	4.93	132.4	3.46	2.89	4.29	1472.
203	4.69	33.802	202	26.786	129.3	4.67	126.9	3.79	3.54	3.63	1471.
255	4.35	33.850	253	26.860	122.5	4.33	119.7	4.44	5.04	2.70	1471.
305	4.07	33.889	303	26.921	117.0	4.05	114.0	5.04	6.77	1.96	1471.
407	3.87	34.011	404	27.038	106.7	3.84	102.8	6.18	10.90	1.42	1472.
509	3.69	34.101	505	27.128	98.8	3.65	94.3	7.23	15.79	0.97	1473.
610	3.49	34.191	605	27.219	90.8	3.45	85.6	8.18	21.25	0.75	1474.
812	3.16	34.299	805	27.336	80.7	3.10	74.4	9.91	33.74	0.82	1476.
1012	2.84	34.380	1002	27.430	72.5	2.77	65.4	11.43	47.89	0.58	1478.
1212	2.61	34.438	1200	27.496	66.8	2.53	59.0	12.82	63.69	0.66	1480.
1516	2.30	34.503*	1499	27.574	60.1	2.20	51.5	14.74	90.33	0.83	1484.
2027	1.97	34.575	2002	27.658	53.1	1.83	43.3	17.61	142.14	1.38	1491.
2541	1.73	34.618	2507	27.711	48.8	1.55	38.1	20.21	202.84	2.04	1499.
3059	1.59	34.646	3014	27.744	46.5	1.36	34.7	22.67	272.93	2.63	1507.
3576	1.53	34.664	3520	27.763	45.8	1.25	32.5	25.05	353.47	2.95	1516.
4094	1.52	34.673	4025	27.771	46.5	1.19	31.5	27.43	446.38	3.29	1524.
4197	1.53	34.672	4125	27.769	46.9	1.18	31.6	27.91	466.63	3.15	1526.
4300	1.52	34.672	4225	27.770	47.1	1.16	31.4	28.39	487.54	0.0	1528.



OFFSHORE OCEANOGRAPHY GROUP

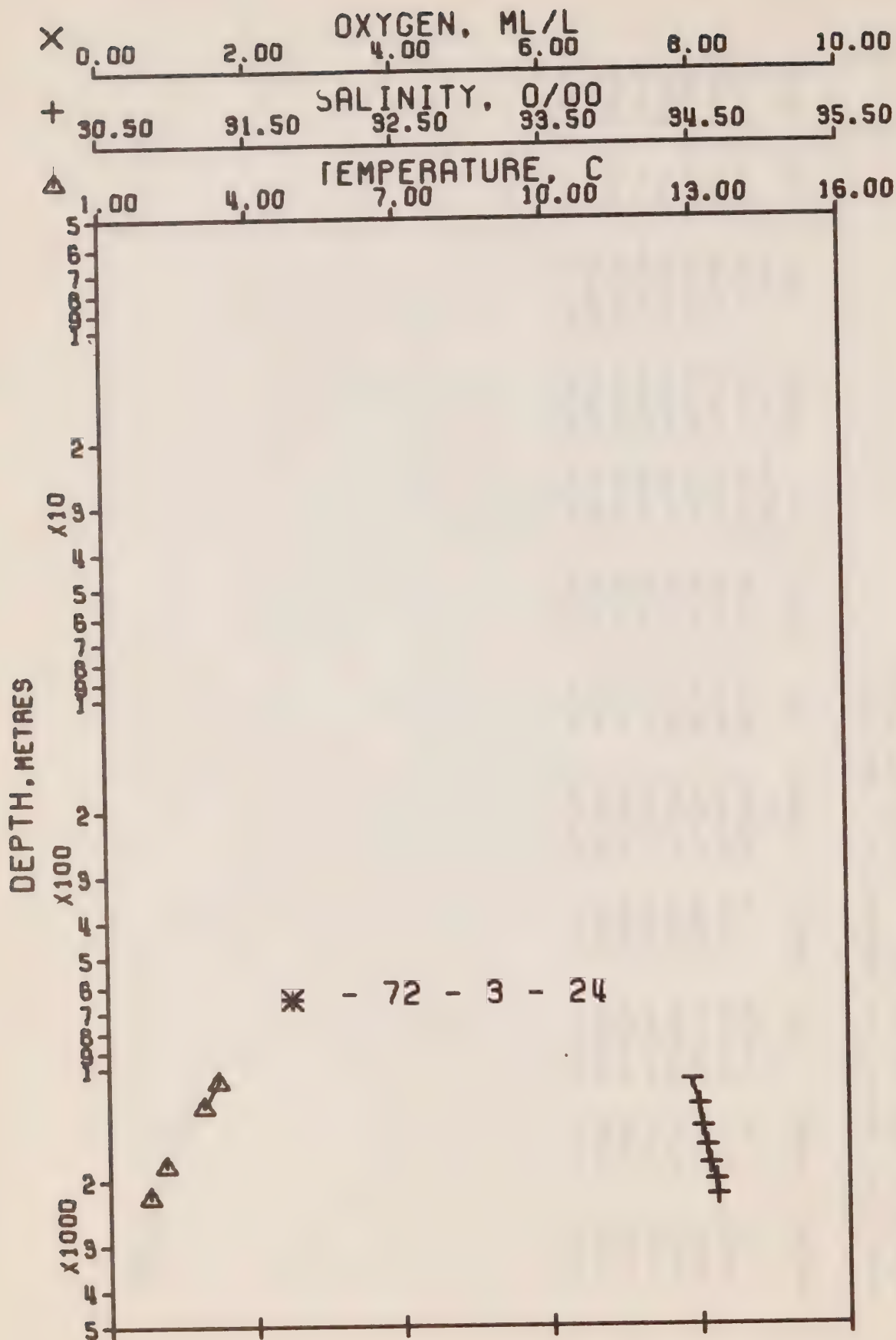
REFERENCE NO. 72- 3- 10 DATE 11/ 5/72
 POSITION 50- 1.0 N. 144-59.0 W GMT 18.4
 HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	6.03	32.631	0	25.704	230.0	6.03	229.8	0.0	0.0	7.26	1472.
10	6.02	32.627	10	25.702	230.3	6.02	229.9	0.23	0.01	7.24	1472.
20	5.85	32.624	20	25.721	228.6	5.85	228.1	0.46	0.05	7.35	1472.
29	5.40	32.644	29	25.790	222.1	5.40	221.6	0.67	0.10	0.0	1470.
49	5.00	32.660	49	25.847	216.7	5.00	216.1	1.11	0.27	0.0	1469.
74	4.87	32.672	74	25.871	214.7	4.86	213.8	1.65	0.62	7.31	1469.
100	4.57	32.706	99	25.930	209.2	4.56	208.2	2.19	1.10	6.74	1468.
125	4.63	33.260	124	26.363	168.5	4.62	167.1	2.67	1.64	5.94	1469.
150	4.77	33.627	149	26.638	142.7	4.76	140.9	3.05	2.18	5.12	1471.
175	4.88	33.750	174	26.723	135.0	4.87	132.8	3.40	2.76	4.14	1472.
200	4.79	33.804	199	26.776	130.2	4.77	127.8	3.73	3.40	3.49	1472.
252	4.43	33.849	250	26.851	123.4	4.41	120.7	4.39	4.90	2.65	1471.
302	4.22	33.897	300	26.911	118.0	4.20	114.9	4.99	6.62	2.18	1471.
405	3.82	34.001	402	27.035	106.9	3.79	103.1	6.14	10.76	1.08	1471.
506	3.70	34.014	502	27.057	105.5	3.66	100.9	7.22	15.76	0.53	1473.
606	3.55	34.172	601	27.198	92.9	3.51	87.6	8.22	21.40	0.57	1474.



OFFSHORE OCEANOGRAPHY GROUP
 REFERENCE NO. 72- 3- 17 DATE 16/ 5/72
 POSITION 49-26.0 N, 136-40.0 W GMT 2.6
 HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	7.34	32.633	0	25.535	246.0	7.34	245.8	0.0	0.0	0.0	1477.
1207	2.67	34.434	1195	27.488	67.8	2.59	59.8	17.76	54.54	0.0	1480.
1408	2.41	34.489	1394	27.554	61.8	2.31	53.5	19.05	71.91	0.0	1483.
1510	2.32	34.506	1494	27.575	60.1	2.22	51.4	19.67	81.10	0.0	1484.
2018	1.93	34.592	1994	27.675	51.3	1.79	41.8	22.49	131.59	0.0	1491.
2531	1.69	34.632	2498	27.725	47.2	1.51	36.8	24.99	189.70	0.0	1498.
3051	1.59	34.650	3007	27.747	46.3	1.36	34.4	27.40	258.41	0.0	1507.
3579	1.56	34.658	3523	27.756	46.8	1.28	33.3	29.85	341.27	0.0	1516.



OFFSHORE OCEANOGRAPHY GROUP

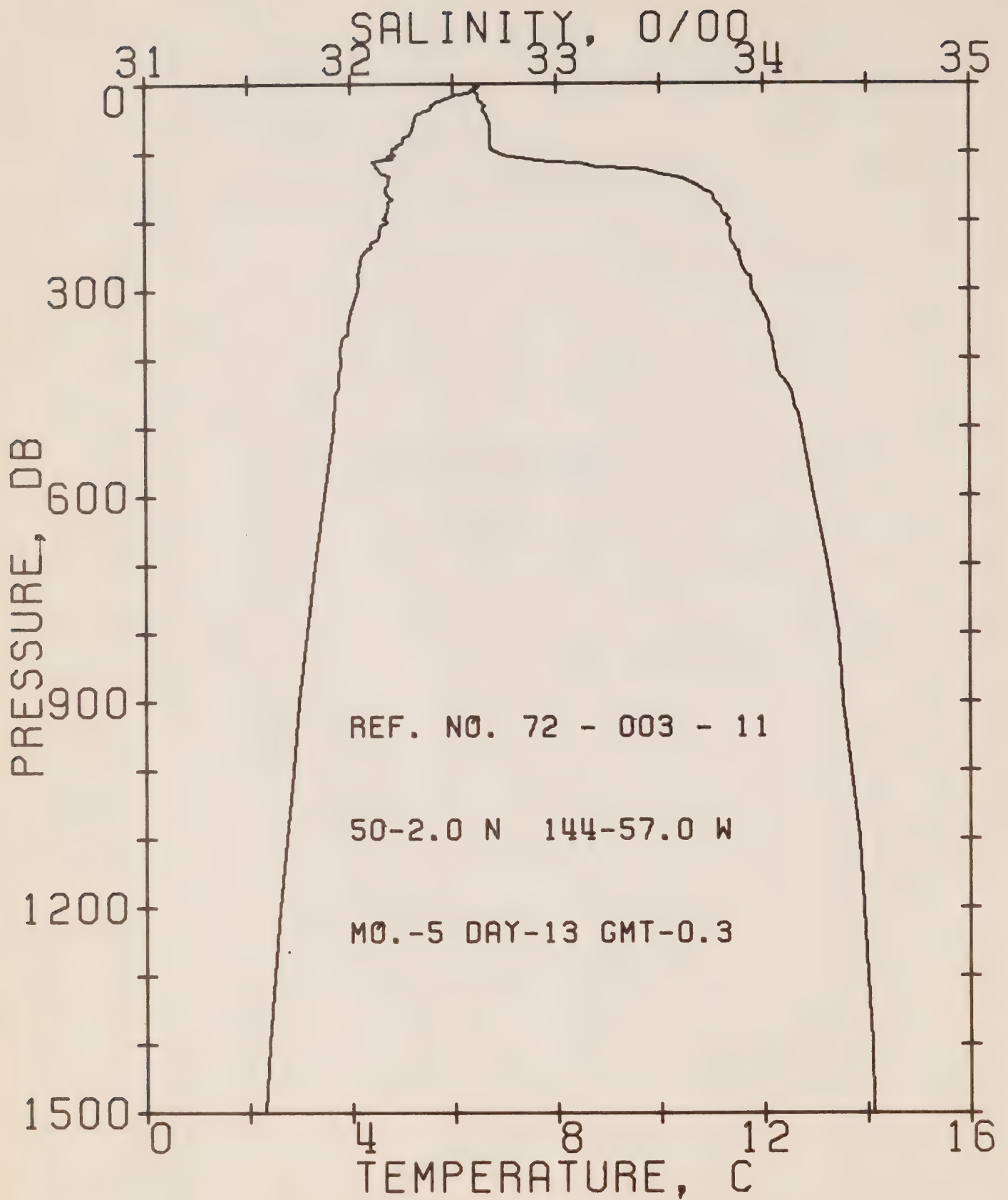
REFERENCE NO. 72- 3- 24 DATE 17/ 5/72

POSITION 48-46.0 N, 127-40.0 W GMT 7.6

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	8.79	32.272	0	25.041	293.0	8.79	292.8	0.0	0.0	0.0	1482.
1097	3.23	34.441	1087	27.442	72.8	3.15	64.1	18.68	47.98	0.0	1481.
1283	2.92	34.486	1271	27.507	67.2	2.83	57.9	19.97	63.79	0.0	1483.
1471	2.63*	34.515	1456	27.556	62.7	2.52	53.2	21.19	80.87	0.0	1485.
1663	2.36*	34.540	1645	27.599	58.7	2.24	49.1	22.35	99.46	0.0	1487.
1856	2.14	34.561	1835	27.633	55.5	2.01	45.7	23.45	119.24	0.0	1489.
2053	1.98*	34.599	2029	27.677	51.7	1.84	41.6	24.51	140.28	0.0	1492.
2254	1.82	34.615	2226	27.702	49.2	1.66	39.1	25.52	162.43	0.0	1494.

RESULTS OF STD CASTS
(P-72-3)



OFFSHORE OCEANOGRAPHY GROUP

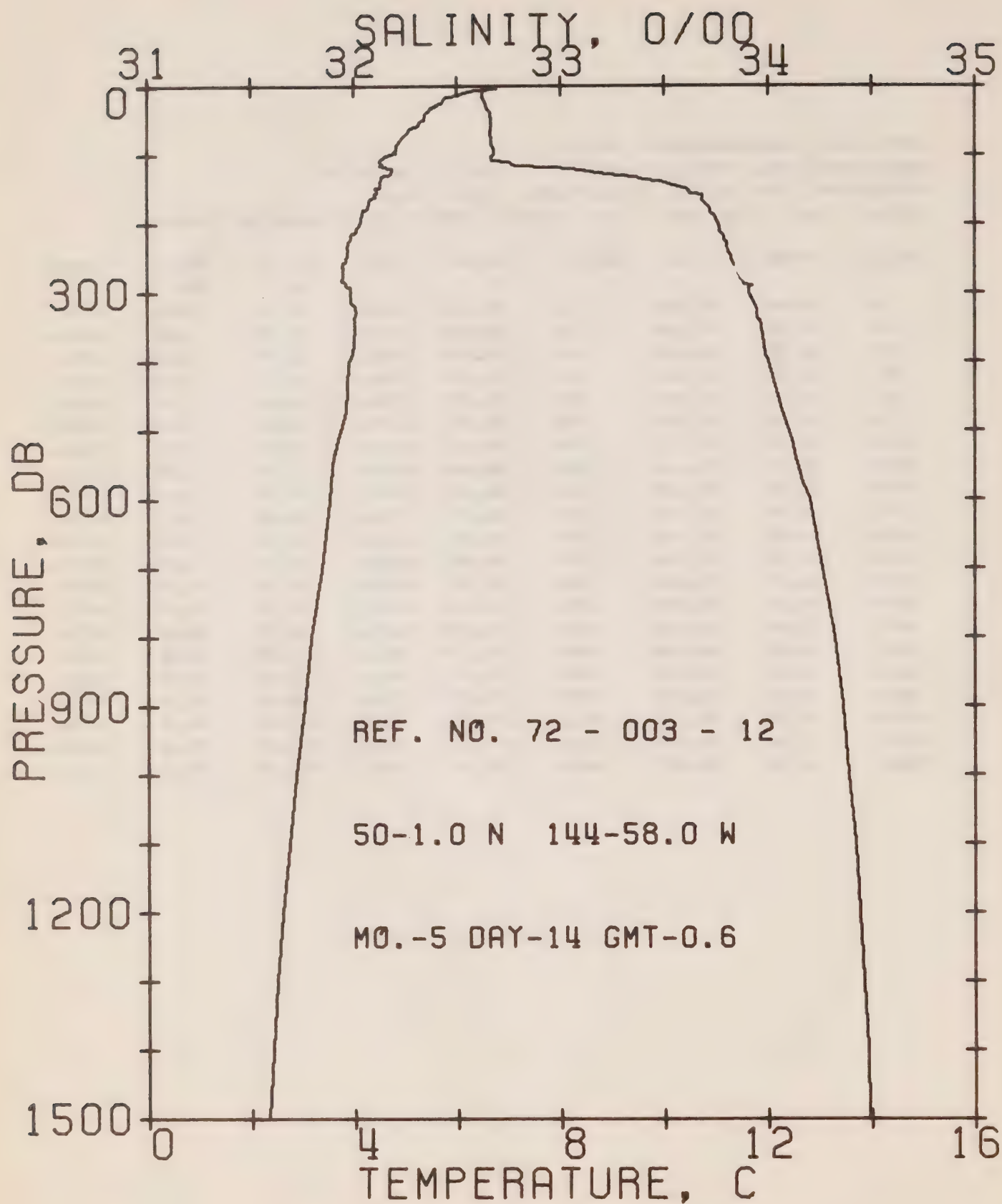
REFERENCE NO. 72- 3- 11

DATE 13/ 5/72

POSITION 50- 2.0N, 144-57.0W GMT 0.3

RESULTS OF STP CAST 111 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.50	32.62	0	25.64	236.2	0.0	0.0	1474.
10	6.35	32.61	10	25.65	235.4	0.24	0.01	1473.
20	5.97	32.62	20	25.70	230.3	0.47	0.05	1472.
30	5.63	32.65	30	25.76	224.6	0.70	0.11	1471.
50	5.25	32.67	50	25.83	218.8	1.14	0.29	1470.
75	5.15	32.68	75	25.85	217.1	1.69	0.63	1470.
100	4.81	32.72	99	25.92	210.7	2.22	1.11	1469.
125	4.57	33.41	124	26.49	156.8	2.70	1.66	1469.
150	4.70	33.69	149	26.70	137.3	3.06	2.17	1470.
175	4.74	33.78	174	26.76	131.2	3.40	2.72	1471.
200	4.69	33.83	199	26.81	126.8	3.72	3.33	1471.
225	4.53	33.84	223	26.83	124.9	4.03	4.01	1471.
250	4.24	33.88	248	26.90	118.8	4.34	4.75	1470.
300	4.12	33.94	298	26.96	113.7	4.92	6.37	1471.
400	3.80	34.06	397	27.08	102.6	5.99	10.17	1471.
500	3.65	34.18	496	27.19	92.5	6.96	14.61	1472.
600	3.47	34.24	595	27.26	86.9	7.85	19.62	1473.
800	3.13	34.36	793	27.39	75.7	9.47	31.11	1475.
1000	2.85	34.42	990	27.46	69.5	10.93	44.46	1478.
1200	2.58	34.48	1188	27.53	63.3	12.25	59.24	1480.
1500	2.30	34.53	1483	27.60	58.0	14.06	84.07	1484.



OFFSHORE OCEANOGRAPHY GROUP

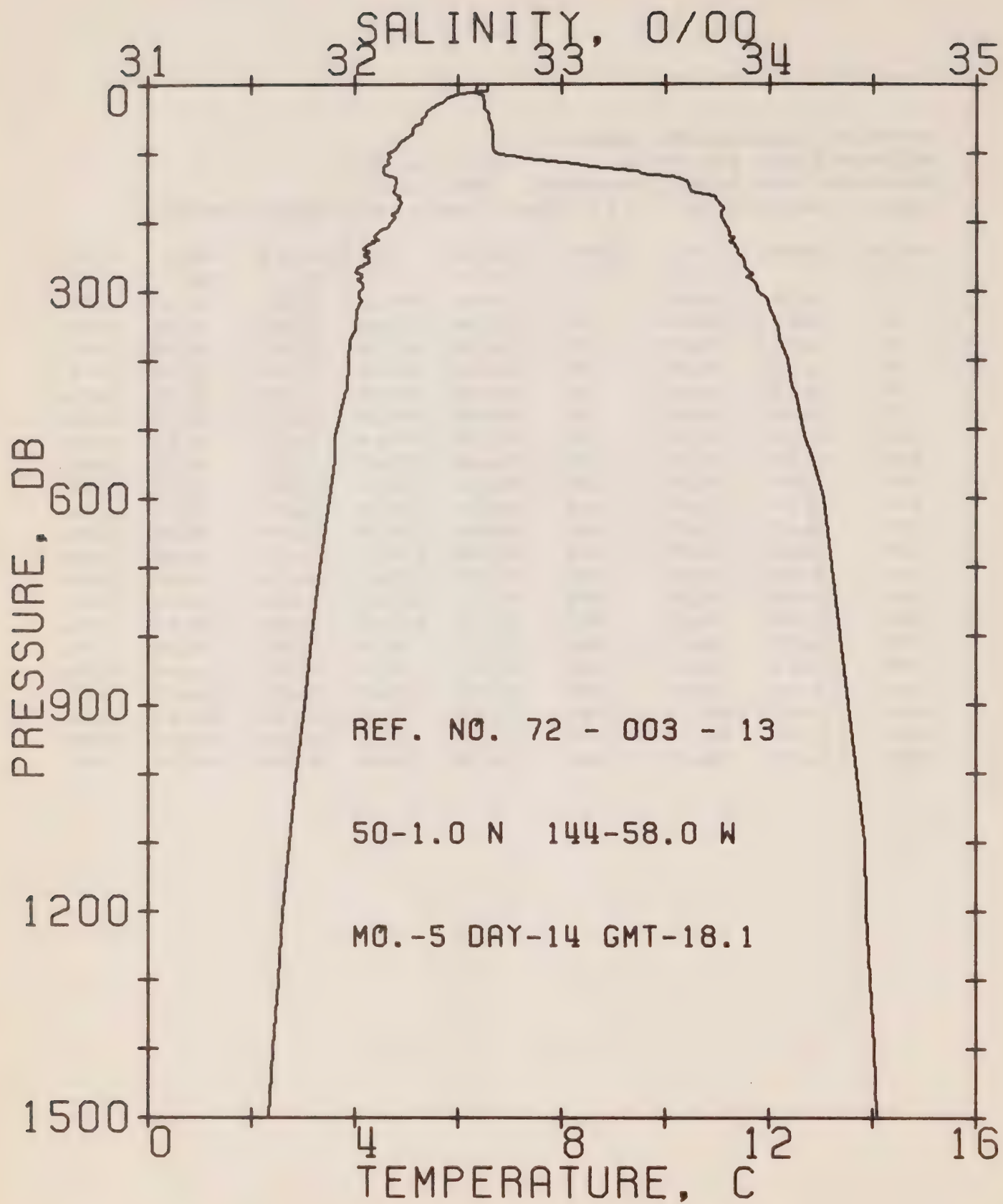
REFERENCE NO. 72- 3- 12

DATE 14/ 5/72

POSITION 50- 1.0N, 144-58.0W GMT 0.6

RESULTS OF STP CAST 115 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.74	32.62	0	25.61	239.1	0.0	0.0	1475.
10	6.16	32.63	10	25.69	231.6	0.24	0.01	1473.
20	5.75	32.63	20	25.74	227.2	0.47	0.05	1471.
30	5.55	32.64	30	25.77	224.1	0.69	0.10	1471.
50	5.35	32.67	50	25.82	219.9	1.13	0.28	1470.
75	4.94	32.67	75	25.86	215.6	1.68	0.63	1469.
100	4.69	32.68	99	25.90	212.4	2.21	1.11	1468.
125	4.73	33.14	124	26.26	178.7	2.72	1.69	1469.
150	4.44	33.60	149	26.66	140.9	3.11	2.23	1469.
175	4.27	33.71	174	26.76	131.4	3.45	2.79	1469.
200	4.12	33.75	199	26.81	126.9	3.77	3.40	1469.
225	3.90	33.79	223	26.86	121.7	4.08	4.08	1468.
250	3.85	33.82	248	26.89	119.5	4.38	4.81	1469.
300	3.94	33.91	298	26.95	114.1	4.96	6.44	1470.
400	3.90	34.00	397	27.03	107.7	6.07	10.40	1472.
500	3.73	34.10	496	27.12	99.4	7.11	15.15	1473.
600	3.53	34.20	595	27.22	90.5	8.06	20.46	1474.
800	3.16	34.32	793	27.35	79.0	9.76	32.50	1475.
1000	2.85	34.39	990	27.44	71.8	11.26	46.27	1478.
1200	2.59	34.44	1188	27.50	66.3	12.64	61.69	1480.
1500	2.32	34.49	1484	27.56	61.2	14.54	87.83	1484.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 3- 13

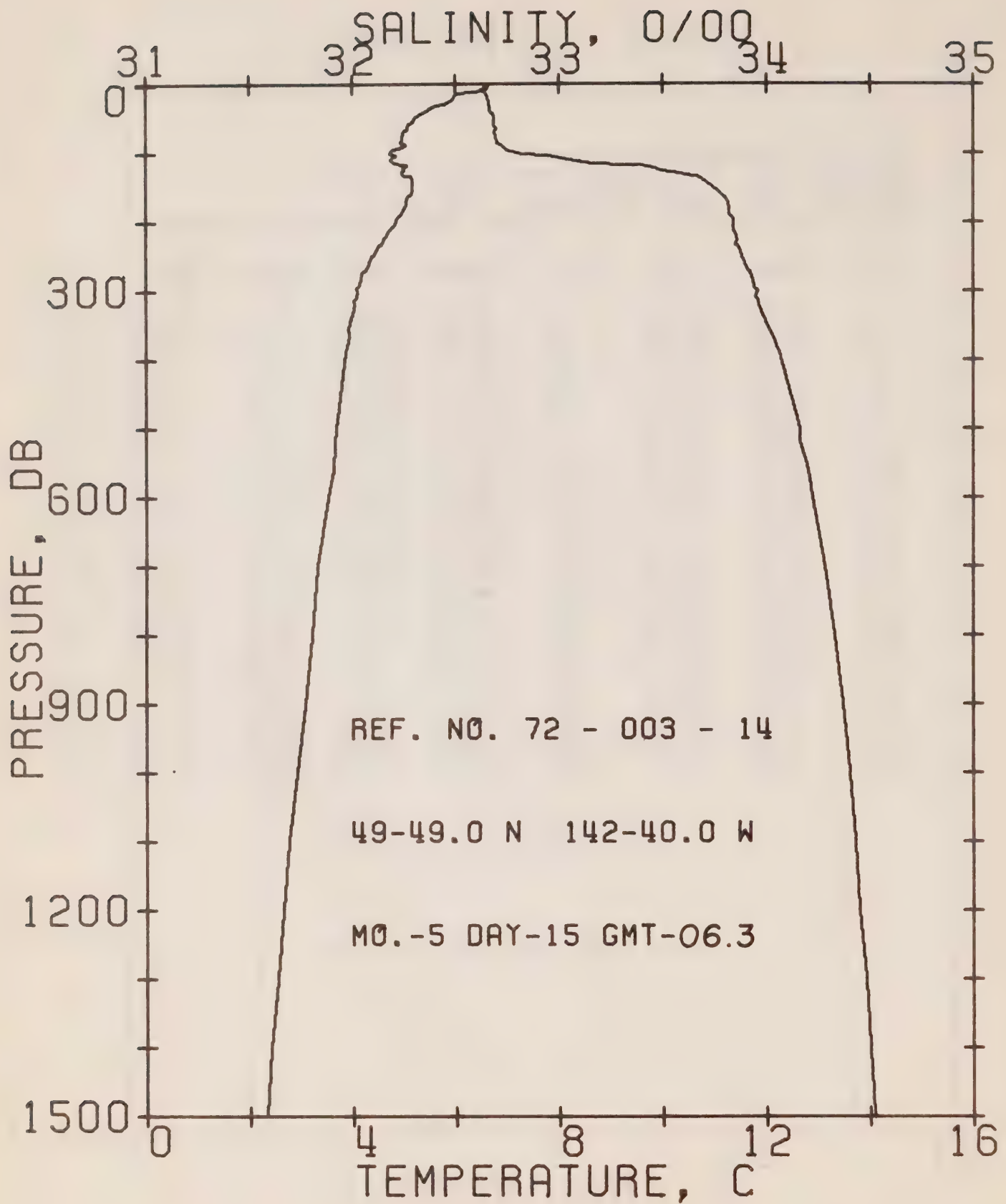
DATE 14/ 5/72

POSITION 50- 1.0N, 144-58.0W

GMT 18.1

RESULTS OF STP CAST 101 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.59	32.61	0	25.62	238.0	0.0	0.0	1474.
10	6.55	32.59	10	25.61	239.3	0.24	0.01	1474.
20	5.79	32.62	20	25.72	228.2	0.47	0.05	1471.
30	5.61	32.63	30	25.75	225.5	0.70	0.11	1471.
50	5.33	32.65	50	25.80	221.0	1.14	0.29	1470.
75	5.05	32.67	75	25.85	216.9	1.69	0.64	1469.
100	4.64	32.68	99	25.90	211.9	2.23	1.11	1468.
125	4.55	33.30	124	26.40	164.5	2.71	1.66	1469.
150	4.77	33.61	149	26.63	143.9	3.08	2.18	1471.
175	4.85	33.76	174	26.73	133.9	3.43	2.76	1472.
200	4.69	33.78	199	26.77	130.8	3.76	3.39	1471.
225	4.44	33.82	223	26.83	125.1	4.08	4.08	1471.
250	4.18	33.87	248	26.89	119.2	4.38	4.82	1470.
300	4.09	33.94	298	26.96	113.4	4.96	6.45	1471.
400	3.88	34.09	397	27.10	100.8	6.03	10.22	1472.
500	3.63	34.16	496	27.18	93.5	7.00	14.68	1472.
600	3.50	34.26	595	27.27	85.7	7.90	19.70	1474.
800	3.16	34.34	793	27.37	77.5	9.53	31.30	1475.
1000	2.85	34.42	990	27.46	69.5	11.00	44.75	1478.
1200	2.60	34.47	1188	27.52	64.3	12.33	59.60	1480.
1500	2.31	34.52	1483	27.59	58.9	14.17	84.86	1484.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 3- 14

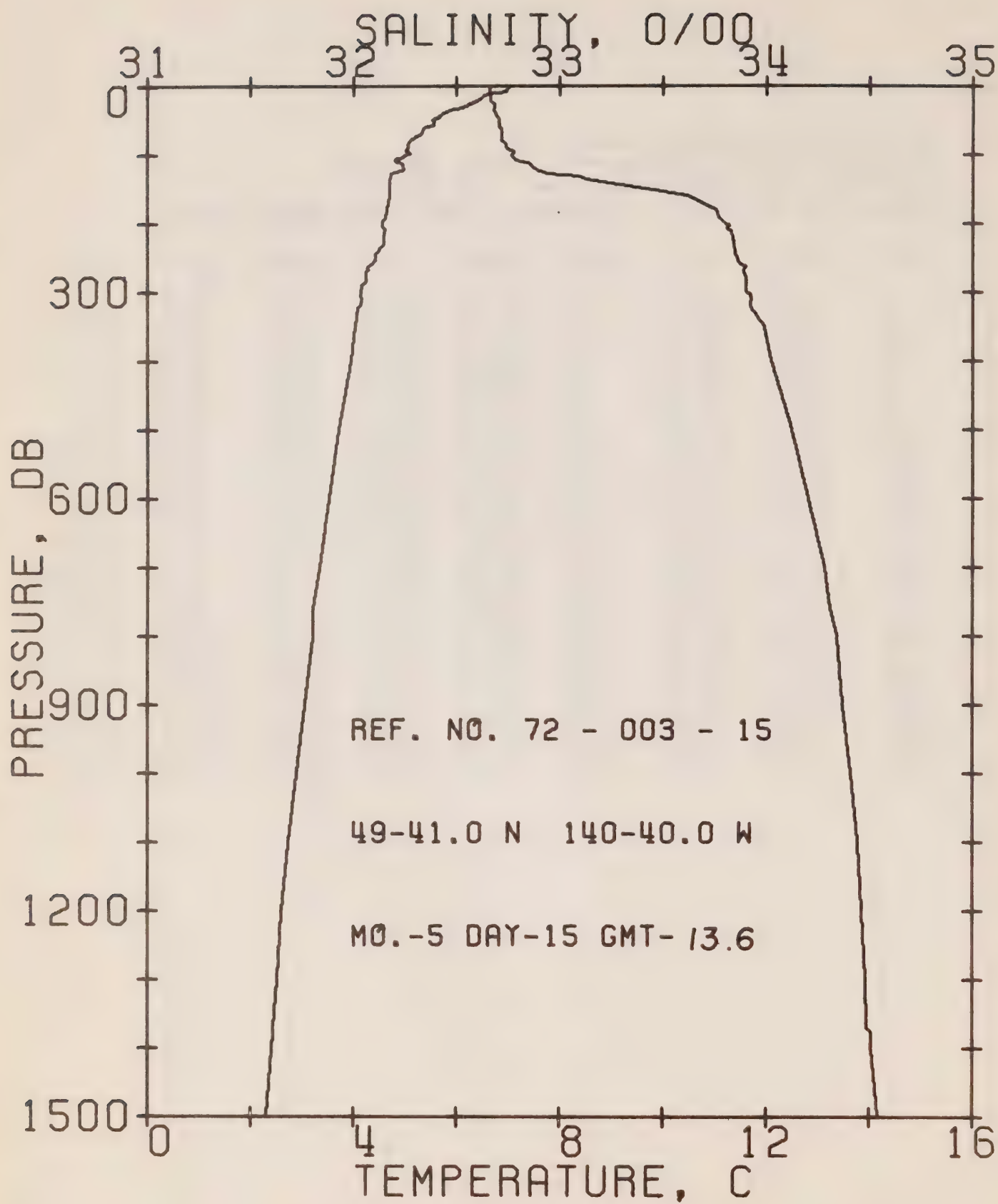
DATE 15/ 5/72

POSITION 49-49.0N, 142-40.0W

GMT 6.3

RESULTS OF STP CAST 74 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.63	32.65	0	25.64	235.6	0.0	0.0	1474.
10	6.51	32.64	10	25.65	235.2	0.24	0.01	1474.
20	5.97	32.65	20	25.73	227.7	0.47	0.05	1472.
30	5.75	32.66	30	25.76	224.9	0.69	0.10	1471.
50	5.20	32.69	50	25.85	216.7	1.13	0.28	1470.
75	4.97	32.69	75	25.88	214.2	1.67	0.63	1469.
100	4.73	32.80	99	25.99	203.8	2.20	1.10	1469.
125	5.02	33.49	124	26.50	155.4	2.65	1.61	1471.
150	5.17	33.74	149	26.68	138.9	3.01	2.12	1472.
175	5.04	33.81	174	26.76	132.0	3.35	2.67	1472.
200	4.85	33.84	199	26.80	128.2	3.67	3.30	1472.
225	4.62	33.86	223	26.84	124.7	3.99	3.98	1472.
250	4.40	33.88	248	26.88	120.7	4.30	4.73	1471.
300	4.10	33.96	298	26.97	112.0	4.88	6.35	1471.
400	3.84	34.07	397	27.09	102.0	5.96	10.18	1471.
500	3.68	34.16	496	27.18	94.3	6.94	14.66	1473.
600	3.51	34.22	595	27.24	88.8	7.86	19.81	1474.
800	3.19	34.33	793	27.36	78.6	9.52	31.65	1476.
1000	2.90	34.40	990	27.44	71.5	11.02	45.37	1478.
1200	2.65	34.45	1188	27.50	66.3	12.40	60.74	1480.
1500	2.33	34.52	1484	27.59	59.1	14.26	86.39	1484.



OFFSHORE OCEANOGRAPHY GROUP

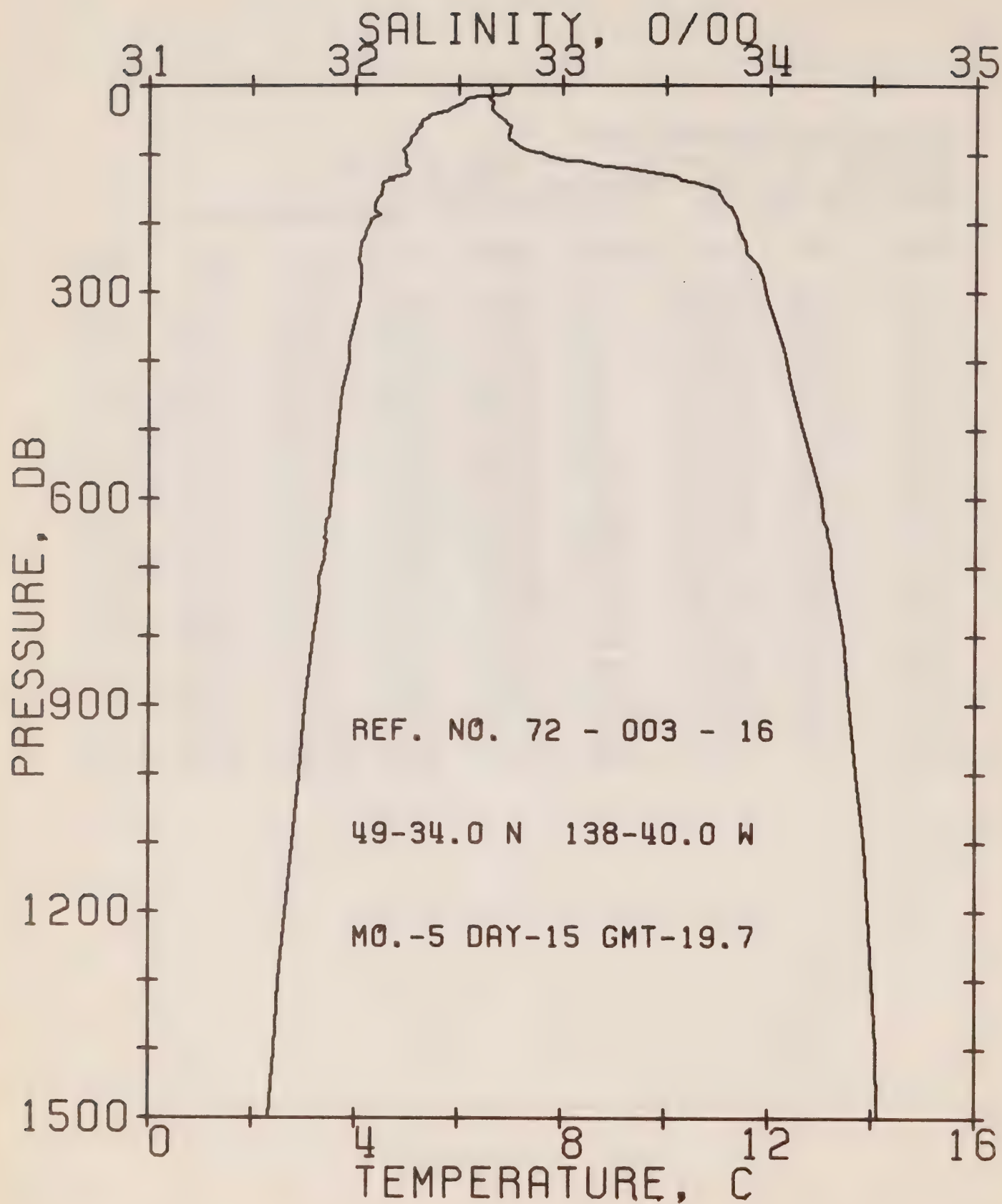
REFERENCE NO. 72- 3- 15

DATE 15/ 5/72

POSITION 49-41.0N, 140-40.0W GMT 13.6

RESULTS OF STP CAST 86 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.03	32.70	0	25.63	236.8	0.0	0.0	1476.
10	6.80	32.66	10	25.63	237.3	0.24	0.01	1475.
20	6.45	32.67	20	25.68	232.3	0.47	0.05	1474.
30	6.21	32.69	30	25.73	228.1	0.70	0.11	1473.
50	5.53	32.71	50	25.83	218.8	1.15	0.29	1471.
75	5.22	32.72	75	25.87	214.8	1.69	0.63	1470.
100	5.06	32.78	99	25.93	209.2	2.22	1.11	1470.
125	4.87	32.91	124	26.06	197.4	2.73	1.69	1470.
150	4.70	33.40	149	26.47	158.8	3.18	2.31	1470.
175	4.66	33.72	174	26.72	135.0	3.53	2.90	1471.
200	4.55	33.30	199	26.80	127.8	3.86	3.53	1471.
225	4.59	33.84	223	26.82	125.8	4.18	4.21	1471.
250	4.43	33.86	248	26.86	122.8	4.49	4.97	1471.
300	4.14	33.90	298	26.92	117.0	5.08	6.63	1471.
400	3.95	34.02	397	27.04	106.8	6.19	10.57	1472.
500	3.70	34.12	496	27.14	97.4	7.21	15.23	1473.
600	3.52	34.20	595	27.22	90.4	8.15	20.48	1474.
800	3.20	34.34	793	27.36	77.9	9.82	32.35	1476.
1000	2.88	34.41	990	27.45	70.6	11.31	45.97	1478.
1200	2.60	34.46	1188	27.51	65.1	12.66	61.09	1480.
1500	2.30	34.54	1484	27.60	57.3	14.51	86.40	1484.



OFFSHORE OCEANOGRAPHY GROUP

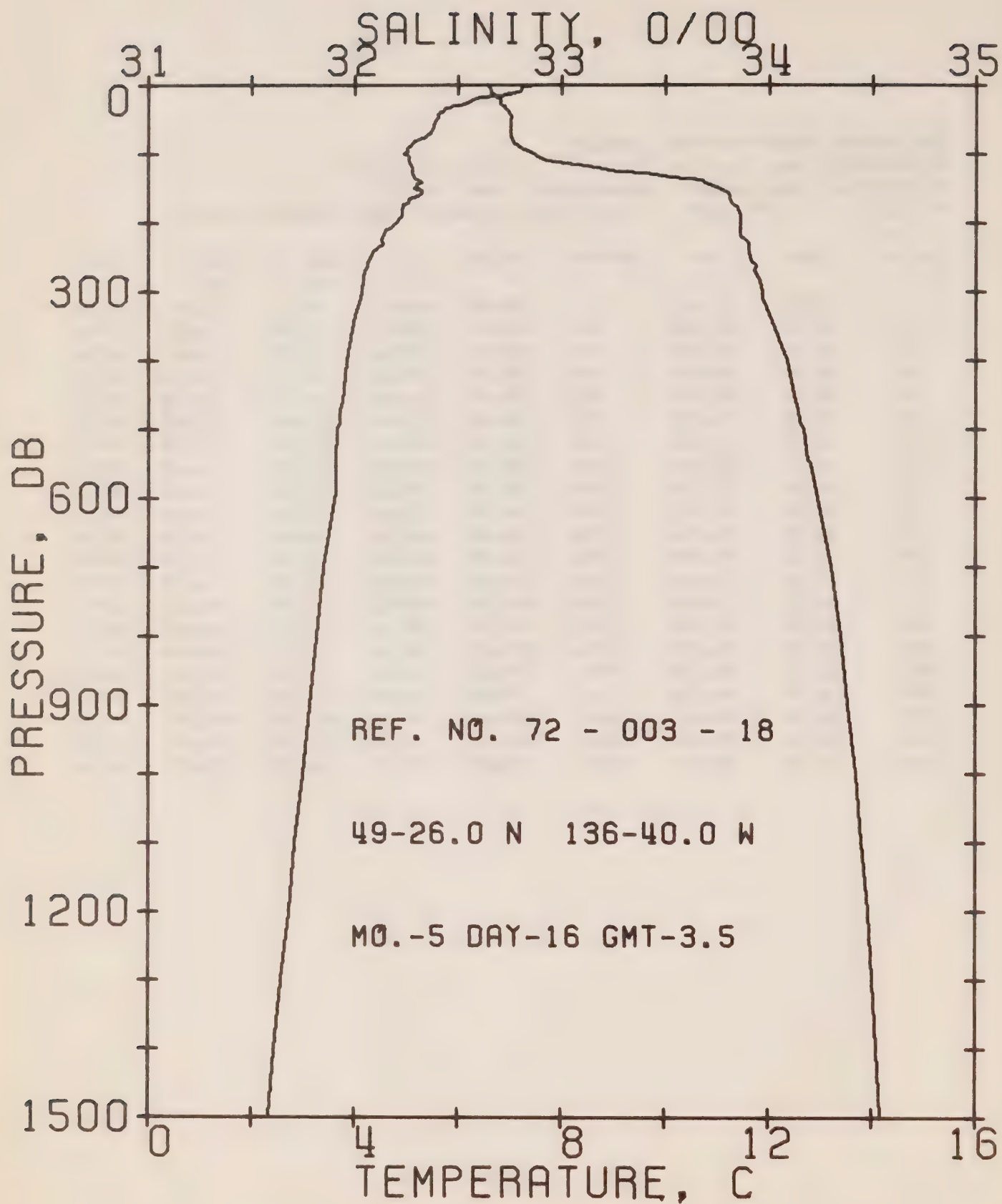
REFERENCE NO. 72- 3- 16

DATE 15/ 5/72

POSITION 49-34.0N, 138-40.0W GMT 19.7

RESULTS OF STP CAST 88 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.00	32.65	0	25.59	240.2	0.0	0.0	1476.
10	6.94	32.66	10	25.61	239.1	0.24	0.01	1476.
20	6.16	32.65	20	25.70	230.3	0.47	0.05	1473.
30	5.94	32.66	30	25.74	226.8	0.70	0.11	1472.
50	5.34	32.72	50	25.85	216.1	1.15	0.29	1470.
75	5.07	32.74	75	25.90	211.7	1.68	0.63	1470.
100	4.95	32.91	99	26.05	198.2	2.20	1.09	1470.
125	5.01	33.40	124	26.43	161.9	2.65	1.61	1471.
150	4.51	33.73	149	26.75	132.3	3.02	2.11	1470.
175	4.38	33.80	174	26.82	125.8	3.34	2.65	1470.
200	4.26	33.84	199	26.86	121.6	3.65	3.24	1470.
225	4.13	33.88	223	26.90	117.9	3.95	3.89	1470.
250	4.06	33.91	248	26.94	115.1	4.24	4.60	1470.
300	4.07	33.98	298	26.99	110.2	4.80	6.16	1471.
400	3.86	34.08	397	27.09	101.4	5.85	9.91	1472.
500	3.65	34.16	496	27.18	94.0	6.83	14.38	1472.
600	3.52	34.25	595	27.26	86.7	7.73	19.43	1474.
800	3.18	34.36	793	27.38	76.3	9.37	31.03	1476.
1000	2.90	34.42	990	27.46	70.1	10.83	44.41	1478.
1200	2.63	34.48	1188	27.53	63.9	12.16	59.33	1480.
1500	2.31	34.53	1484	27.59	58.1	13.98	84.37	1484.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 3- 18

DATE 16/ 5/72

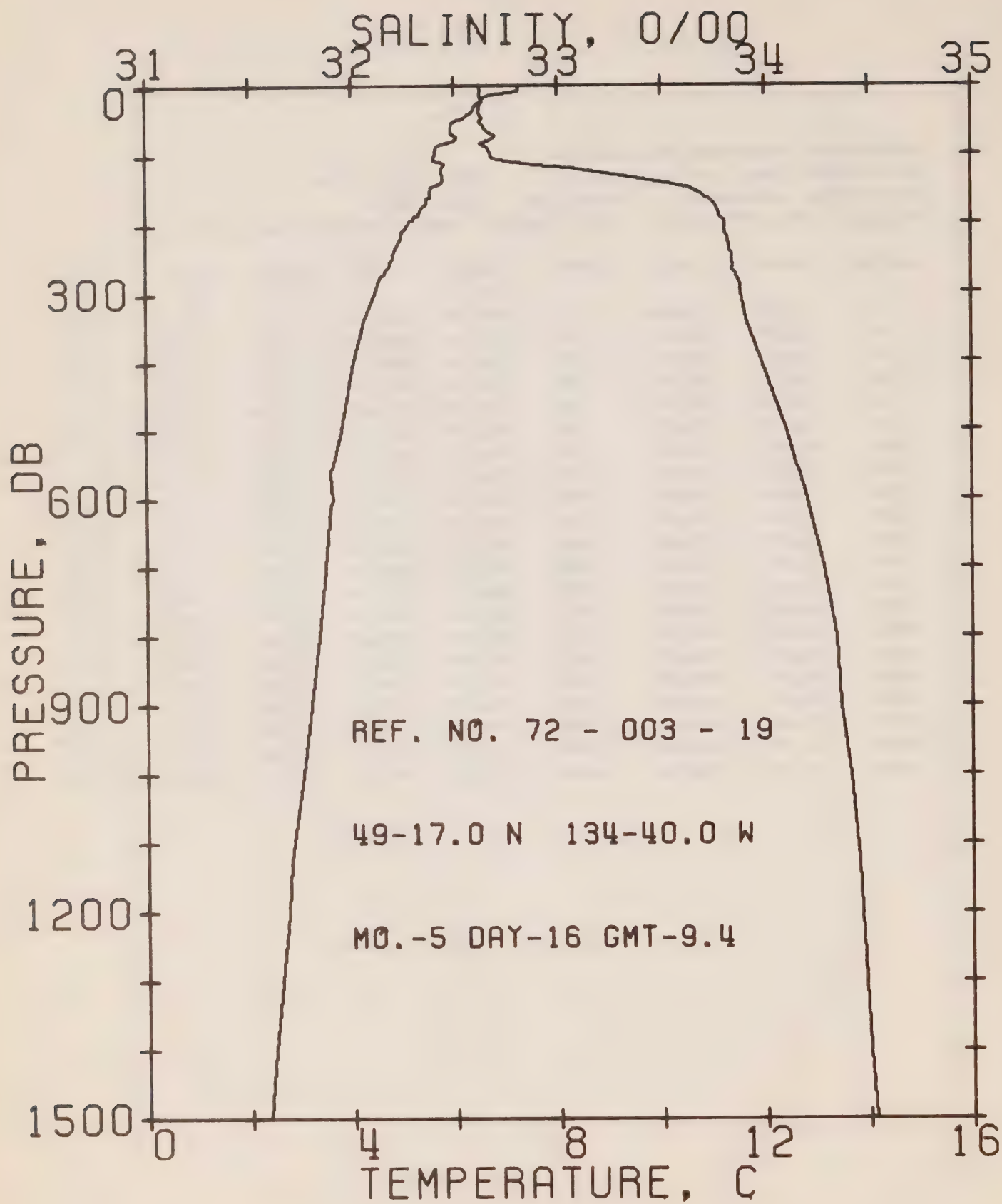
POSITION 49-26.0N, 136-40.0W

GMT 3.5

RESULTS OF STP CAST

90 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. FN	SOUND
0	7.60	32.64	0	25.50	248.8	0.0	0.0	1478.
10	7.20	32.66	10	25.57	242.4	0.24	0.01	1477.
20	6.32	32.71	20	25.73	227.7	0.48	0.05	1474.
30	6.05	32.72	30	25.77	223.9	0.71	0.11	1473.
50	5.59	32.75	50	25.85	216.3	1.14	0.28	1471.
75	5.39	32.75	75	25.87	214.5	1.68	0.63	1471.
100	4.96	32.87	99	26.02	201.1	2.20	1.09	1470.
125	5.12	33.27	124	26.32	173.1	2.68	1.64	1471.
150	5.16	33.76	149	26.70	137.1	3.06	2.16	1472.
175	4.94	33.83	174	26.78	129.3	3.39	2.72	1472.
200	4.80	33.86	199	26.82	126.1	3.71	3.33	1472.
225	4.51	33.88	223	26.87	121.4	4.02	4.00	1471.
250	4.31	33.91	248	26.91	117.6	4.32	4.72	1471.
300	4.13	33.97	298	26.98	111.6	4.89	6.32	1471.
400	3.85	34.09	397	27.10	100.5	5.95	10.10	1472.
500	3.65	34.17	496	27.19	93.3	6.93	14.56	1472.
600	3.62	34.24	595	27.24	88.7	7.84	19.67	1474.
800	3.25	34.35	793	27.37	77.8	9.50	31.43	1476.
1000	2.99	34.42	990	27.45	71.0	10.99	45.08	1478.
1200	2.71	34.48	1188	27.52	64.8	12.34	60.26	1480.
1500	2.32	34.54	1484	27.60	57.5	14.17	85.36	1484.



OFFSHORE OCEANOGRAPHY GROUP

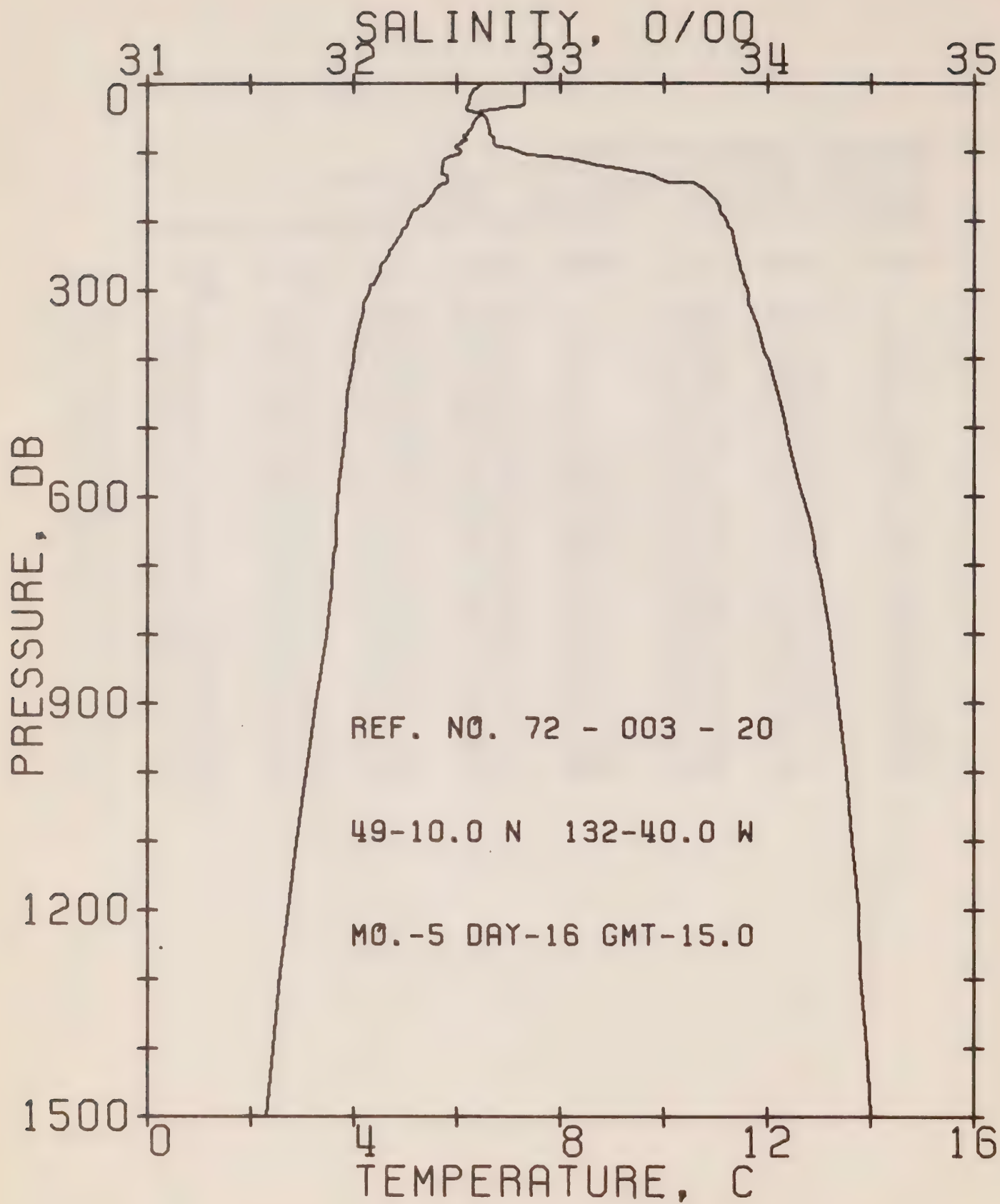
REFERENCE NO. 72- 3- 19

DATE 16/ 5/72

POSITION 49-17.0N, 134-40.0W GMT 9.4

RESULTS OF STP CAST 83 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.24	32.63	0	25.55	244.7	0.0	0.0	1477.
10	7.15	32.63	10	25.56	243.9	0.24	0.01	1477.
20	6.55	32.63	20	25.64	236.2	0.48	0.05	1474.
30	6.42	32.63	30	25.65	235.1	0.72	0.11	1474.
50	6.15	32.63	50	25.69	231.6	1.19	0.30	1473.
75	6.04	32.69	75	25.75	226.1	1.76	0.66	1473.
100	5.63	32.68	99	25.79	222.8	2.32	1.17	1472.
125	5.78	33.17	124	26.16	188.2	2.85	1.77	1474.
150	5.54	33.64	149	26.56	150.2	3.27	2.36	1474.
175	5.42	33.76	174	26.67	140.6	3.63	2.96	1474.
200	5.11	33.81	199	26.74	133.3	3.98	3.61	1473.
225	4.93	33.82	223	26.78	130.6	4.31	4.33	1473.
250	4.81	33.84	248	26.80	128.2	4.63	5.11	1473.
300	4.45	33.88	298	26.87	121.8	5.25	6.86	1472.
400	4.02	33.98	357	27.00	110.5	6.42	10.99	1472.
500	3.78	34.10	496	27.12	99.8	7.47	15.79	1473.
600	3.63	34.20	595	27.21	91.5	8.42	21.11	1474.
800	3.34	34.34	793	27.35	79.5	10.12	33.18	1476.
1000	3.02	34.41	990	27.44	72.1	11.65	47.15	1478.
1200	2.73	34.46	1188	27.50	66.4	13.02	62.51	1480.
1500	2.35	34.53	1484	27.59	58.6	14.90	88.34	1484.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 3- 20

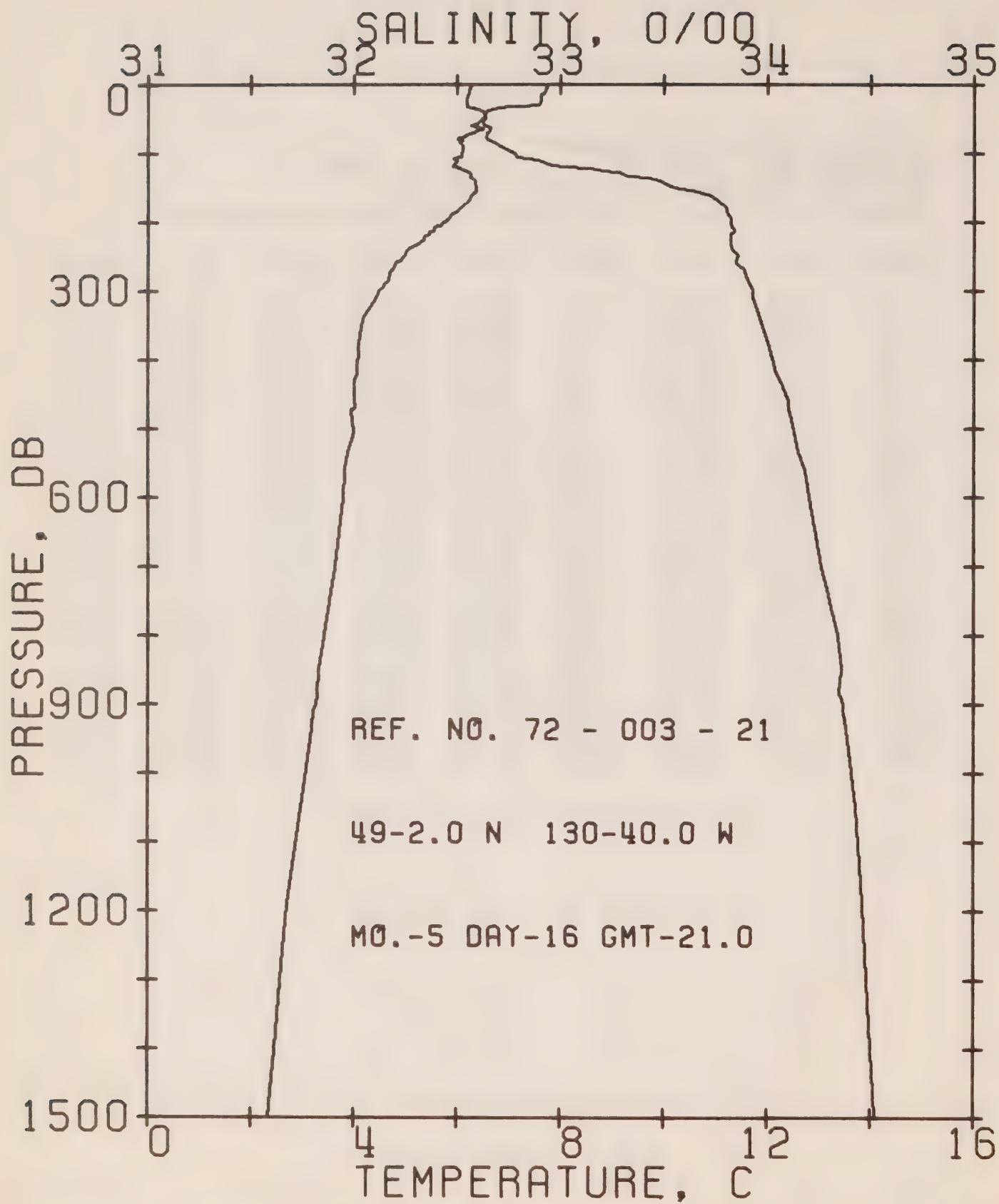
DATE 16/ 5/72

POSITION 49-10.0N, 132-40.0W

GMT 15.0

RESULTS OF STP CAST 86 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.32	32.63	0	25.54	245.8	0.0	0.0	1477.
10	7.32	32.58	10	25.50	249.9	0.25	0.01	1477.
20	7.32	32.57	20	25.49	250.9	0.50	0.05	1477.
30	7.30	32.56	30	25.48	251.4	0.75	0.12	1478.
50	6.40	32.64	50	25.66	234.3	1.23	0.31	1474.
75	6.17	32.66	75	25.71	230.0	1.81	0.68	1474.
100	6.06	32.81	99	25.84	218.3	2.38	1.18	1474.
125	5.72	33.28	124	26.25	179.5	2.87	1.75	1474.
150	5.65	33.67	149	26.57	149.7	3.29	2.33	1474.
175	5.37	33.75	174	26.67	140.2	3.65	2.92	1474.
200	5.03	33.80	199	26.75	133.1	3.99	3.57	1473.
225	4.86	33.83	223	26.79	129.0	4.32	4.28	1473.
250	4.66	33.85	248	26.83	125.7	4.63	5.05	1472.
300	4.30	33.90	298	26.91	118.5	5.25	6.77	1472.
400	4.00	34.00	397	27.02	108.8	6.38	10.81	1472.
500	3.83	34.09	496	27.10	101.4	7.43	15.60	1473.
600	3.70	34.17	595	27.18	94.6	8.41	21.10	1474.
800	3.46	34.30	793	27.31	83.8	10.19	33.73	1477.
1000	3.06	34.38	990	27.41	74.8	11.77	48.23	1478.
1200	2.73	34.44	1188	27.49	67.9	13.20	64.17	1480.
1500	2.30	34.50	1484	27.57	60.3	15.12	90.54	1484.



OFFSHORE OCEANOGRAPHY GROUP

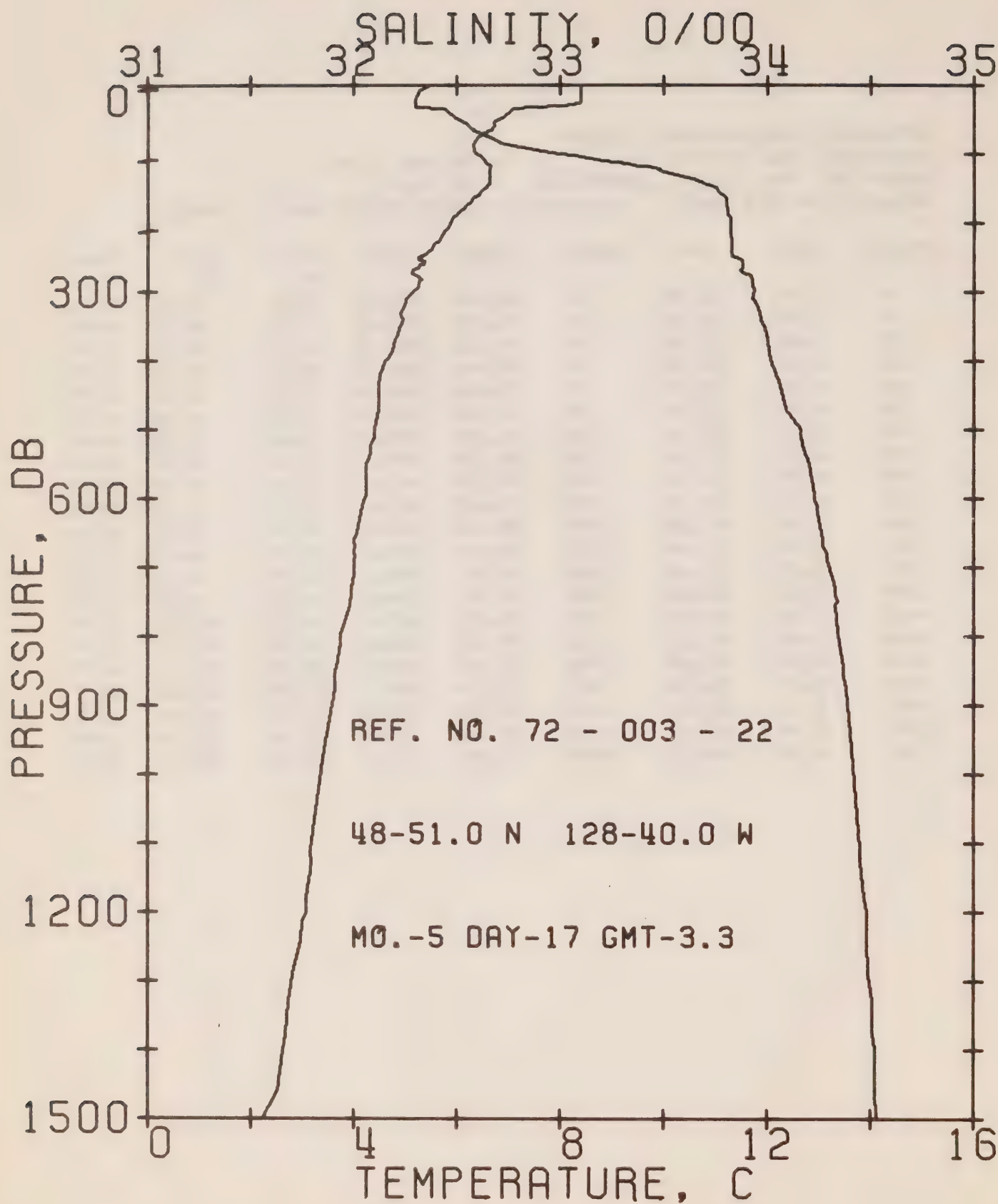
REFERENCE NO. 72- 3- 21

DATE 16/ 5/72

POSITION 49- 2.0N. 130-40.0W GMT 21.0

RESULTS OF STP CAST 108 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	PCT. EN	SOUND
0	7.77	32.58	0	25.43	255.5	0.0	0.0	1479.
10	7.69	32.56	10	25.43	256.2	0.26	0.01	1479.
20	7.62	32.55	20	25.43	256.3	0.51	0.05	1479.
30	7.57	32.55	30	25.44	255.7	0.77	0.12	1479.
50	6.52	32.64	50	25.65	235.8	1.25	0.31	1475.
75	6.16	32.65	75	25.70	231.2	1.83	0.68	1474.
100	6.08	32.78	99	25.82	220.5	2.40	1.19	1474.
125	6.17	33.20	124	26.14	190.6	2.92	1.79	1475.
150	6.37	33.55	149	26.39	167.2	3.36	2.40	1477.
175	6.13	33.78	174	26.60	147.5	3.75	3.05	1477.
200	5.76	33.82	199	26.68	140.2	4.11	3.73	1476.
225	5.35	33.82	223	26.72	135.6	4.45	4.47	1475.
250	4.95	33.86	248	26.80	128.3	4.78	5.27	1473.
300	4.47	33.93	298	26.91	118.2	5.40	7.01	1472.
400	4.06	34.02	397	27.03	107.8	6.53	11.01	1472.
500	3.99	34.13	496	27.12	100.2	7.56	15.75	1474.
600	3.79	34.20	595	27.20	93.3	8.52	21.13	1475.
800	3.42	34.34	793	27.34	80.3	10.27	33.53	1477.
1000	3.06	34.41	990	27.43	72.6	11.81	47.59	1478.
1200	2.68	34.46	1188	27.51	65.7	13.18	62.99	1480.
1500	2.32	34.52	1484	27.59	59.0	15.06	88.71	1484.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 3- 22

DATE 17/ 5/72

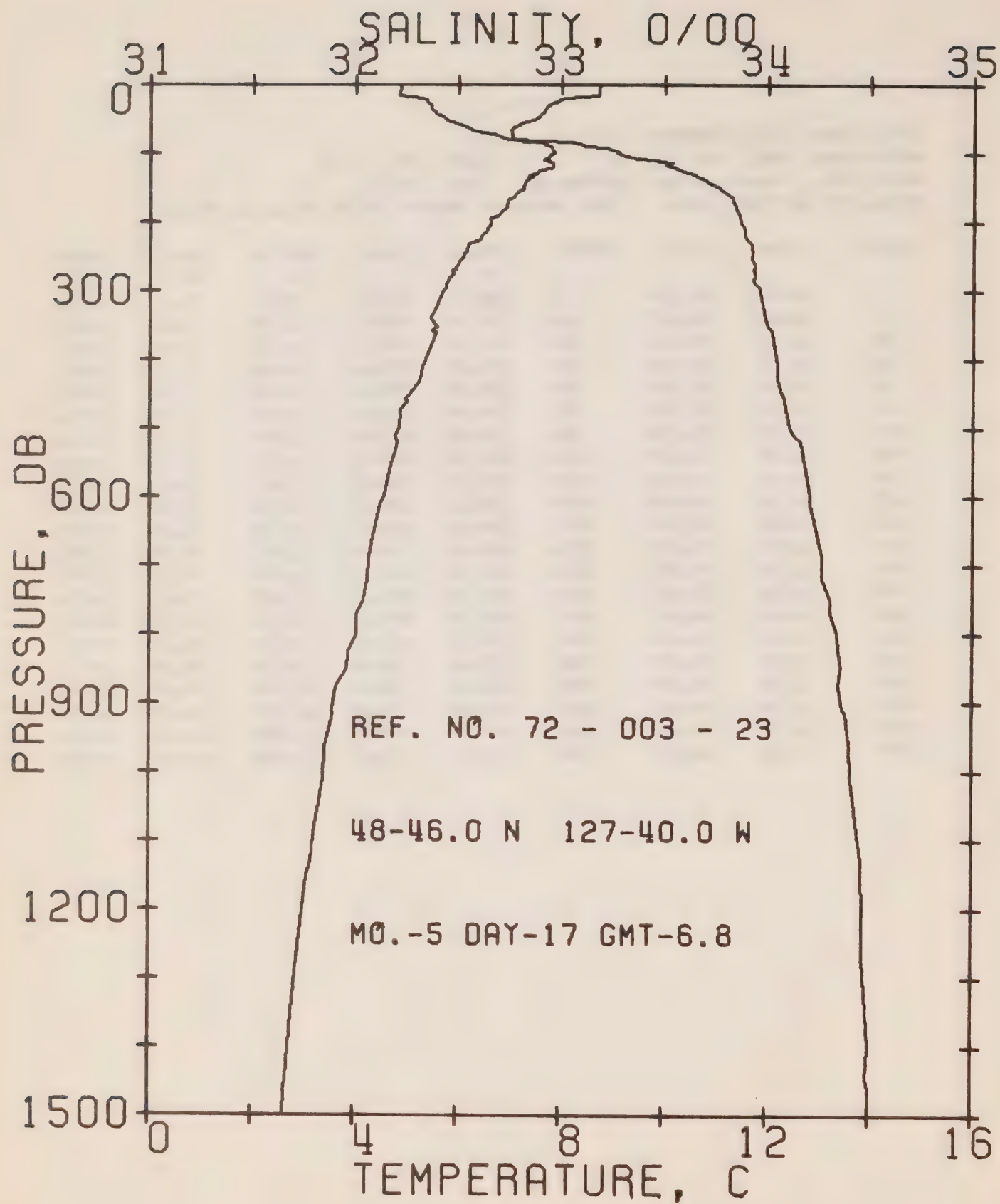
POSITION 48-51.0N, 128-40.0W

GMT 3.3

RESULTS OF STP CAST

121 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.40	32.37	0	25.18	279.9	0.0	0.0	1481.
10	8.40	32.32	10	25.14	284.2	0.28	0.01	1481.
20	8.39	32.30	20	25.13	285.2	0.57	0.06	1481.
30	8.15	32.30	30	25.16	282.3	0.85	0.13	1480.
50	6.82	32.51	50	25.51	249.2	1.37	0.34	1476.
75	6.43	32.66	75	25.68	233.4	1.98	0.73	1475.
100	6.36	33.00	99	25.95	207.5	2.53	1.22	1476.
125	6.65	33.49	124	26.30	174.7	3.01	1.77	1478.
150	6.56	33.75	149	26.52	154.5	3.42	2.34	1478.
175	6.18	33.80	174	26.61	146.4	3.79	2.96	1477.
200	5.89	33.82	199	26.66	141.7	4.15	3.64	1476.
225	5.67	33.83	223	26.69	138.8	4.50	4.40	1476.
250	5.25	33.85	248	26.76	132.5	4.84	5.23	1475.
300	5.16	33.94	298	26.84	125.4	5.49	7.03	1475.
400	4.63	34.02	357	26.96	114.4	6.69	11.30	1475.
500	4.40	34.16	496	27.10	102.2	7.77	16.28	1476.
600	4.22	34.23	595	27.18	95.9	8.76	21.81	1477.
800	3.73	34.34	793	27.32	83.6	10.54	34.49	1478.
1000	3.36	34.42	990	27.41	75.2	12.13	48.98	1480.
1200	3.07	34.48	1188	27.49	68.8	13.57	65.11	1482.
1500	2.22	34.53	1484	27.60	57.1	15.48	91.28	1483.



OFFSHORE OCEANOGRAPHY GROUP

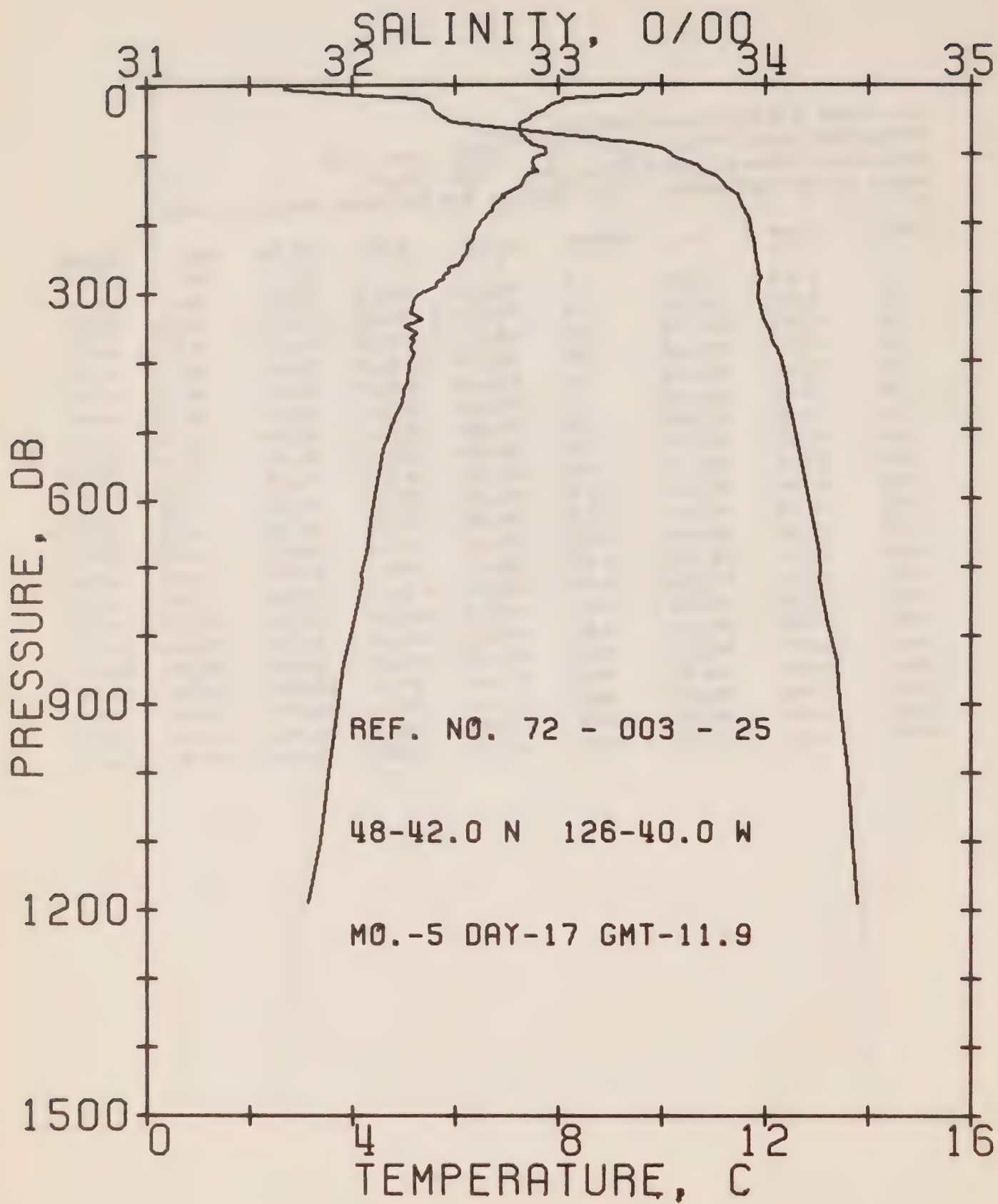
REFERENCE NO. 72- 3- 23

DATE 17/ 5/72

POSITION 48-46.0N, 127-40.0W GMT 6.8

RESULTS OF STP CAST 130 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.75	32.23	0	25.01	295.3	0.0	0.0	1482.
10	8.72	32.22	10	25.01	296.2	0.30	0.02	1482.
20	8.05	32.33	20	25.20	278.5	0.59	0.06	1480.
30	7.77	32.37	30	25.27	272.1	0.86	0.13	1479.
50	7.50	32.43	50	25.36	263.8	1.40	0.35	1478.
75	7.05	32.69	75	25.62	239.0	2.03	0.75	1477.
100	7.88	33.27	99	25.96	207.1	2.58	1.24	1482.
125	7.61	33.58	124	26.24	180.8	3.06	1.79	1482.
150	7.24	33.77	149	26.44	162.2	3.49	2.39	1481.
175	6.95	33.84	174	26.53	153.7	3.88	3.04	1480.
200	6.63	33.87	199	26.60	147.4	4.26	3.76	1479.
225	6.44	33.90	223	26.65	143.0	4.62	4.54	1479.
250	6.11	33.92	248	26.71	137.4	4.97	5.38	1478.
300	5.71	33.96	298	26.79	130.3	5.64	7.26	1477.
400	5.36	34.04	397	26.90	121.1	6.89	11.73	1478.
500	4.85	34.11	496	27.01	111.1	8.06	17.04	1477.
600	4.57	34.21	595	27.12	101.4	9.11	22.93	1478.
800	4.02	34.34	793	27.28	87.1	10.99	36.31	1479.
1000	3.40	34.41	991	27.40	76.5	12.61	51.14	1480.
1200	2.99	34.47	1188	27.49	68.6	14.06	67.31	1482.
1500	2.61	34.50	1484	27.55	63.8	16.04	94.52	1485.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 3- 25

DATE 17/ 5/72

POSITION 48-42.0N, 126-40.0W

GMT 11.9

RESULTS OF STP CAST 82 POINTS TAKEN FROM ANALCG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.63	31.69	0	24.46	348.6	0.0	0.0	1485.
10	9.58	31.81	10	24.55	339.5	0.35	0.02	1485.
20	8.09	32.32	20	25.18	279.8	0.66	0.06	1480.
30	7.84	32.38	30	25.27	271.8	0.94	0.14	1479.
50	7.43	32.46	50	25.39	260.9	1.47	0.35	1478.
75	7.34	33.09	75	25.89	213.2	2.07	0.73	1479.
100	7.75	33.54	99	26.18	185.9	2.56	1.16	1482.
125	7.60	33.71	124	26.34	171.2	3.00	1.67	1482.
150	7.20	33.82	149	26.49	158.0	3.41	2.24	1481.
175	6.75	33.88	174	26.60	147.6	3.79	2.87	1479.
200	6.50	33.92	199	26.66	141.7	4.15	3.56	1479.
225	6.32	33.94	223	26.70	138.7	4.50	4.31	1479.
250	6.14	33.95	248	26.73	135.6	4.84	5.14	1478.
300	5.37	33.97	298	26.84	125.5	5.49	6.97	1476.
400	5.13	34.07	397	26.95	116.0	6.70	11.28	1477.
500	4.74	34.14	496	27.05	107.4	7.82	16.41	1477.
600	4.42	34.21	595	27.14	99.9	8.86	22.20	1477.
800	3.95	34.31	793	27.27	88.3	10.74	35.62	1479.
1000	3.53	34.40	991	27.38	78.6	12.40	50.75	1480.

OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 3- 26

DATE 17/ 5/72

POSITION 48-38.0N. 126- 0.0W GMT 14.3

RESULTS OF STP CAST 28 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.01	30.82	0	23.72	418.9	0.0	0.0	1485.
10	9.97	30.81	10	23.72	419.4	0.42	0.02	1485.
20	9.30	31.20	20	24.13	380.5	0.84	0.08	1483.
30	7.86	32.11	30	25.05	292.4	1.16	0.17	1479.
50	7.53	32.76	50	25.61	239.6	1.68	0.38	1479.
75	7.54	33.35	75	26.07	196.7	2.22	0.72	1480.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	10.01	30.82	49.	7.53	32.76
3.	9.98	30.81	52.	7.53	32.77
10.	9.97	30.81	54.	7.47	32.87
17.	9.97	30.80	55.	7.48	32.88
18.	9.97	30.82	61.	7.47	33.04
20.	9.30	31.20	64.	7.50	33.13
22.	8.70	31.46	66.	7.51	33.20
25.	8.05	31.90	68.	7.55	33.25
28.	7.99	31.96	76.	7.54	33.36
29.	7.90	32.06	80.	7.52	33.40
33.	7.75	32.26	82.	7.47	33.45
36.	7.61	32.43	87.	7.45	33.52
39.	7.62	32.48	90.	7.44	33.56
45.	7.56	32.66	98.	7.30	33.68

OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 3- 27

DATE 17/ 5/72

POSITION 48-33.0N, 125-33.0W GMT 16.3

RESULTS OF STP CAST 30 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.78	30.38	0	23.41	448.1	0.0	0.0	1484.
10	9.78	30.31	10	23.36	453.9	0.45	0.02	1484.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	9.78	30.38	55.	7.38	32.82
11.	9.78	30.30	57.	7.37	32.86
13.	9.75	30.30	62.	7.35	32.89
14.	9.70	30.31	64.	7.30	33.04
18.	8.80	30.79	69.	7.30	33.10
21.	8.25	31.10	72.	7.30	33.11
22.	8.20	31.14	73.	7.29	33.11
25.	8.15	31.22	75.	7.25	33.19
27.	8.05	31.36	80.	7.24	33.20
30.	7.94	31.58	84.	7.23	33.23
31.	7.84	31.69	85.	7.22	33.25
37.	7.78	31.81	94.	7.21	33.29
45.	7.65	32.20	97.	7.15	33.40
49.	7.50	32.45	100.	7.31	33.43
52.	7.48	32.60	0.	0.0	0.0

SURFACE TEMPERATURE AND SALINITY OBSERVATIONS
(P-72-3)

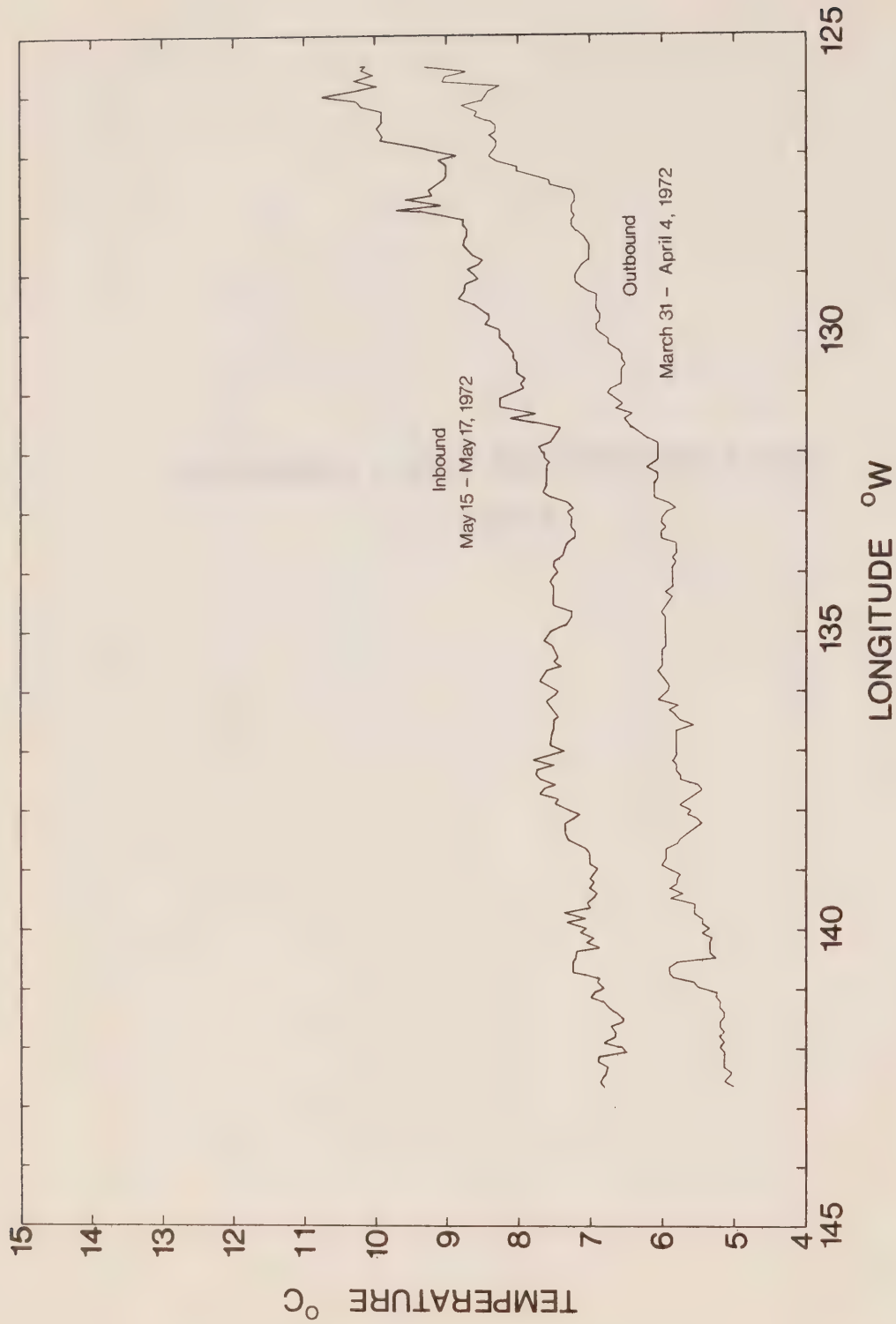


Fig. 24 Graph of Line P surface temperatures as continuously recorded from a probe located at the engine room intake (approximately 3 meters below the surface). p-72-3.

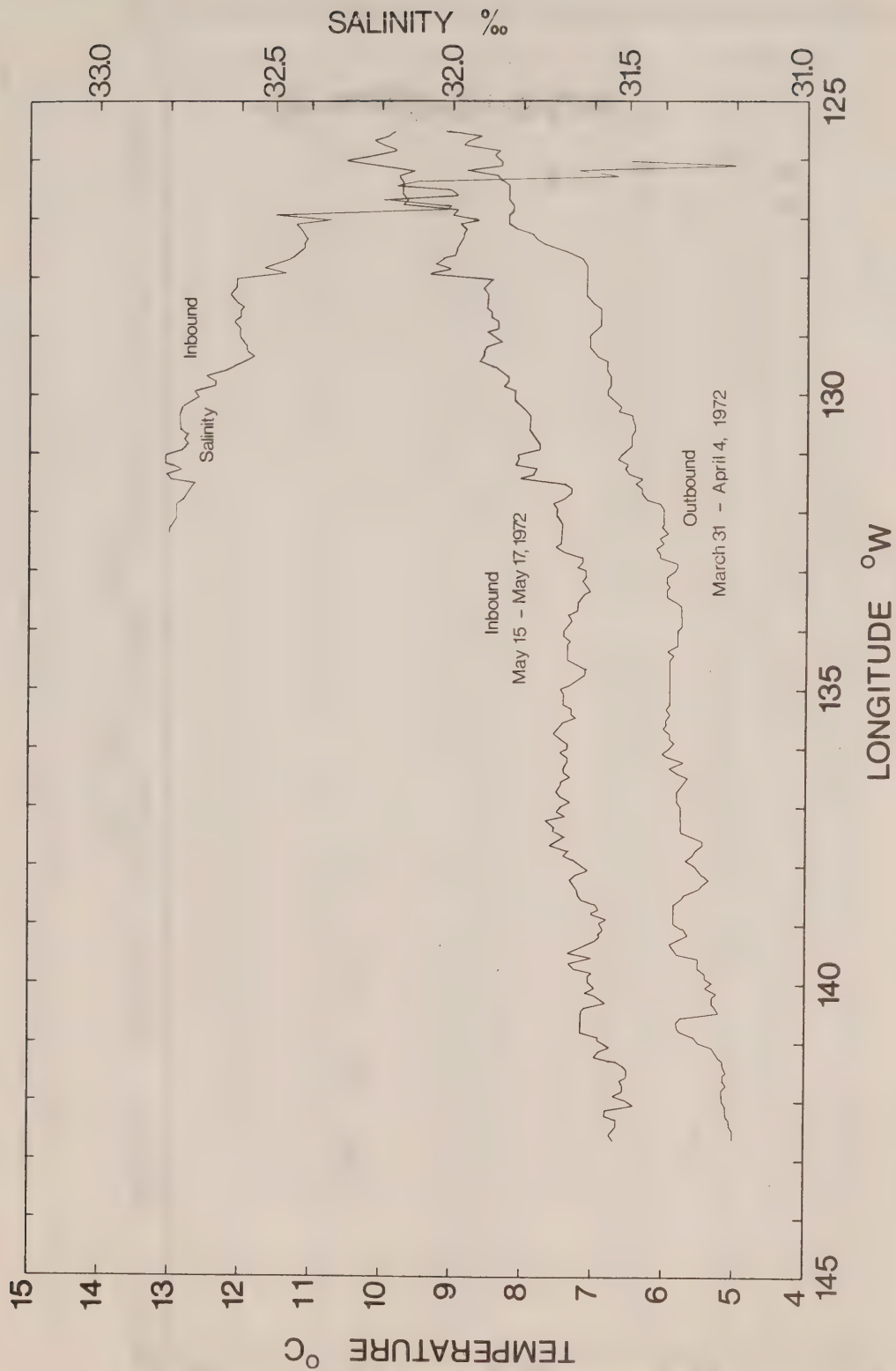


Fig. 25 Graph of Line P surface temperatures and salinities as continuously recorded from probes in the seawater loop located in the lab (approximately 10 meters above the surface). Cruise P-72-3.

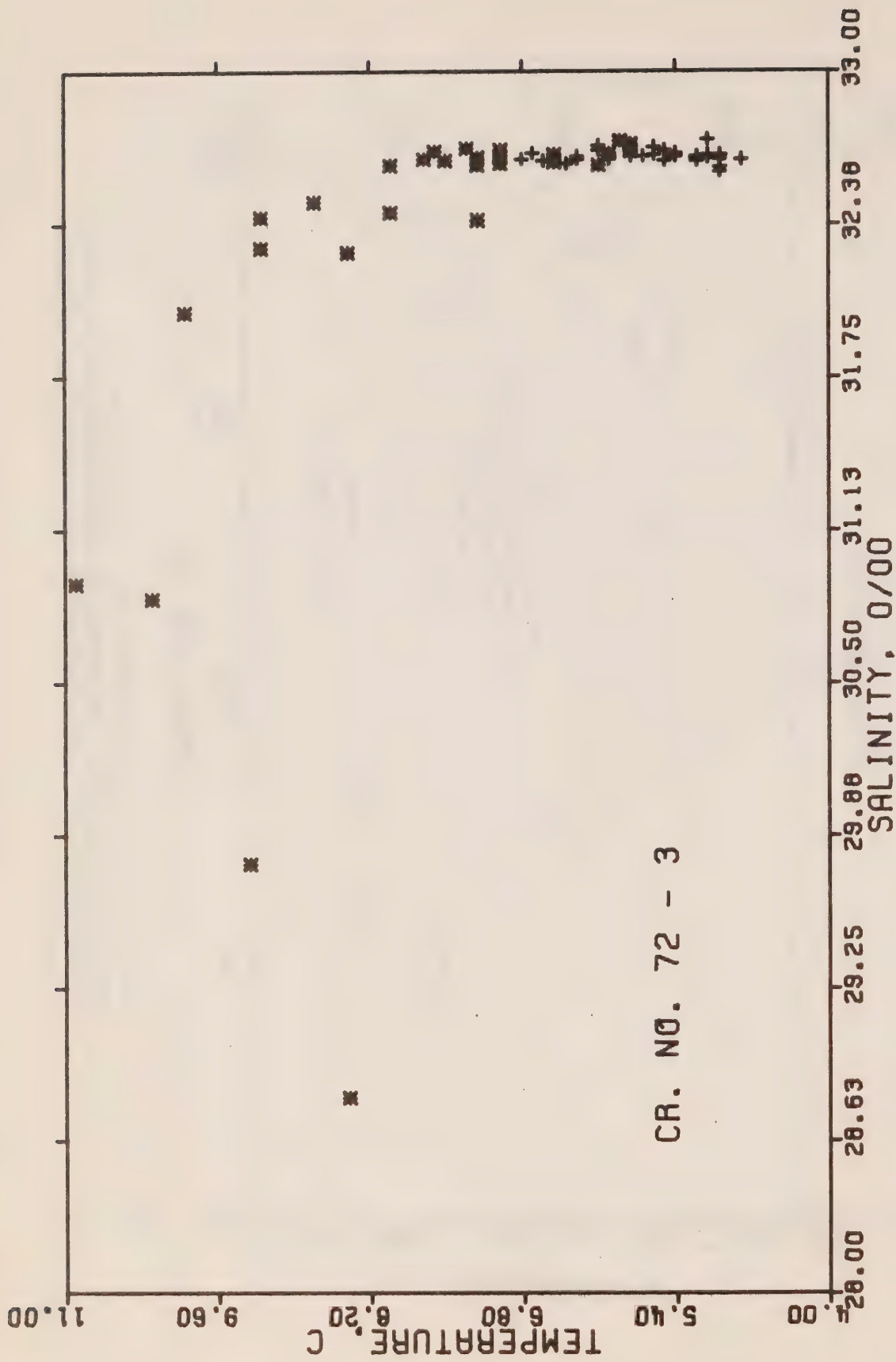


Fig. 26 T-S plot of surface temperature and salinity observations on Line P (asterisks) and at Station P (pluses) during Cruise P-72-3.

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 72- 3

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DAY	GMT	O/00	C	WEST
72	3	31	2320	29.759	9.3	125-32
72	4	1	55	28.798	8.4	126- 0
72	4	1	300	32.257	8.4	126-40
72	4	1	700	32.385	7.2	127-40
72	4	1	1630	32.627	6.5	130-40
72	4	1	2245	32.610	6.1	132-40
72	4	2	505	32.660	6.0	134-40
72	4	2	1220	32.670	5.8	136-40
72	4	2	2150	32.712	5.9	138-40
72	4	3	440	32.700	5.8	140-40
72	4	3	940	32.719	5.1	141-40
72	4	4	0	32.634	5.5	ON STATION
72	4	5	0	32.692	6.1	ON STATION
72	4	6	0	32.651	6.0	ON STATION
72	4	7	0	32.648	6.0	ON STATION
72	4	8	0	32.673	6.1	ON STATION
72	4	9	0	32.656	6.0	ON STATION
72	4	10	0	32.633	5.2	ON STATION
72	4	11	0	32.636	5.0	ON STATION
72	4	12	0	32.650	5.0	ON STATION
72	4	13	0	32.646	5.1	ON STATION
72	4	14	0	32.641	5.2	ON STATION
72	4	15	0	32.644	5.2	ON STATION
72	4	16	0	32.640	5.2	ON STATION
72	4	17	0	32.647	5.1	ON STATION
72	4	18	0	32.659	5.1	ON STATION
72	4	19	0	32.655	5.1	ON STATION
72	4	20	0	32.650	5.2	ON STATION
72	4	21	0	32.606	5.0	ON STATION
72	4	22	0	32.636	4.8	ON STATION
72	4	23	0	32.588	5.0	ON STATION
72	4	24	0	32.657	5.1	ON STATION
72	4	25	0	32.658	5.0	ON STATION
72	4	26	0	32.648	5.4	ON STATION
72	4	27	0	32.654	5.0	ON STATION
72	4	28	0	32.654	5.0	ON STATION
72	4	29	0	32.661	5.4	ON STATION
72	4	30	0	32.651	5.4	ON STATION
72	5	1	0	32.678	5.5	ON STATION
72	5	3	0	32.685	5.6	ON STATION
72	5	4	0	32.653	5.7	ON STATION
72	5	5	0	32.659	5.6	ON STATION
72	5	6	0	32.649	5.8	ON STATION
72	5	7	0	32.655	5.8	ON STATION
72	5	8	0	32.663	6.7	ON STATION

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 72- 3

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DAY	GMT	0/00	C	WEST
72	5	8	0	32.663	6.7	ON STATION
72	5	9	0	32.639	6.0	ON STATION
72	5	10	0	32.652	6.3	ON STATION
72	5	11	0	32.637	6.3	ON STATION
72	5	12	0	32.631	6.6	ON STATION
72	5	13	0	32.621	6.4	ON STATION
72	5	14	0	32.630	7.0	ON STATION
72	5	15	215	32.627	7.0	143-40
72	5	15	600	32.636	6.8	142-40
72	5	15	1330	32.681	7.3	140-40
72	5	15	1720	32.678	7.0	139-40
72	5	15	1940	32.645	7.0	138-40
72	5	15	2300	32.669	7.6	137-40
72	5	16	230	32.633	7.5	136-40
72	5	16	648	32.658	6.5	135-40
72	5	16	925	32.645	7.2	134-40
72	5	16	1241	32.617	7.0	133-40
72	5	16	1500	32.639	7.7	132-40
72	5	16	1840	32.615	7.2	131-40
72	5	16	2100	32.615	8.0	130-40
72	5	17	40	32.418	8.0	129-40
72	5	17	320	32.464	8.7	128-40
72	5	17	527	32.400	9.2	128-10
72	5	17	645	32.272	9.2	127-40
72	5	17	1150	32.010	9.9	126-40
72	5	17	1420	30.907	10.9	126- 0
72	5	17	1620	30.845	10.2	125-32

**SEA SURFACE TEMPERATURES AND
SALINITIES AT SHORE STATIONS
ON THE BRITISH COLUMBIA COAST
1914 - 1970**

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ABSTRACT

Daily sea surface temperature and salinity observations have been made at 35 locations along the British Columbia coast for varying lengths of time since 1914. At the present time there are sixteen stations. This report summarizes the vast amount of data in tables of monthly and annual means. It presents such statistics as grand means, 30-year (1941-1970) means, and their standard deviations. A brief history of several of the early stations is given. Descriptions of the observation procedures and equipment, and statements on the accuracy and use of the data are presented. A bibliography lists 69 papers that have utilized the data for oceanographic and fisheries research work and for statistical time-series studies.



FIG. 1. LOCATION OF SHORE STATIONS WHERE DAILY SURFACE OCEANOGRAPHIC OBSERVATIONS ARE OR HAVE BEEN TAKEN.

Sea Surface Temperatures and Salinities at Shore Stations
on the British Columbia Coast

1914 - 1970

by

H.J. Hollister and A.M. Sandnes ¹

INTRODUCTION

Daily sea surface temperature and salinity observations have been made at numerous locations along the British Columbia coast, (Fig. 1) for varying lengths of time. Table 1 lists the stations, the locations of the sampling sites, and the periods of observation. The stations are arranged in the table in a north to south order in 2 groups, the first on the northern mainland coast and the west coast, and the second in the inshore passages and the Strait of Georgia. The first station commenced in 1914, and 11 more stations were added during 1934 to 1937. Eight of these stations are still taking observations.

This report summarizes the data as tabulations of the monthly and annual mean temperature and salinity, and gives such statistics as grand means, 30-year (1941-1970) means, and the standard deviations of these means. A brief history of the program is presented, including a description of the procedures and equipment and a statement about the accuracy of the data. Photographs of a number of the stations are presented to show the exposed locations and the rugged shores the observers walk over to the sampling locations (Fig. 2 to 13). A description of the geography of most of the long-term stations is given in F.R.B. MS Rep. (Oceanogr. and Limnol.) No. 68 (Hollister MS 1960). A Bibliography section lists all the known reports that have dealt with the analysis and use of the data.

The first author has been associated with the program since 1936 and has been in charge since 1946. The second author wrote the computer program used to process the data, and supervised the computational work at the Computing Centre of the Pacific Biological Station, Nanaimo, B.C.

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THE DAILY OCEANOGRAPHIC OBSERVATIONS

Most of the stations are at Ministry of Transport lightstations. The lightkeepers are voluntary observers but receive a payment for their services.

Procedures and equipment

The daily observation is made within 1 hour before the time of high tide, or as close as possible, depending upon daylight conditions and light-keeping schedules. The observation time and sea temperature are recorded on a monthly record form. The observations are taken at a depth of 3 feet (0.9 m). At some stations, modifications to these procedures have been made. Also, stations in operation before 1934 used different procedures. These variations will be described in the section on early history.

A variety of thermometers have been used to measure the sea temperature. References in old correspondence indicate that the early types were mercury laboratory thermometers graduated in 0.5 degree intervals in either Celsius or Fahrenheit scales. During 1937 to 1939, a red-liquid filled thermometer with a Fahrenheit scale was used, but it was too fragile for field use. Early in 1940, a mercury thermometer of the lens front, red-reading type was put into use. It was graduated in 0.5 degree Celsius intervals. It was easy to read and withstood field usage well. This was replaced in mid-1949 by a similar type with a Fahrenheit scale. This thermometer is still in use at the shore stations. (The sea temperatures are recorded and published in the Fahrenheit scale because in the past most people using the data used this scale rather than the Celsius scale; e.g. fishermen, industry, military, meteorologists, general public. The North Pacific sea surface temperature charts published monthly by the U.S. National Oceanic and Atmospheric Administration still use the Fahrenheit scale. Because the observers understand the Fahrenheit scale better, they can detect erroneous readings more easily. Now that the metric system is being used more commonly in North America there should be a changeover soon to the Celsius scale for sea surface temperature observations). The thermometer is mounted in a protective metal case with a well around the bulb. The case has been attached to several different types of sampling rods, the latest in use being a 1-inch (2.5 cm) diameter aluminium pipe, sometimes as long as 16 feet (5 m).

Commencing in 1934, as part of the standard procedure, a seawater sample was collected in a 2-oz (57 cc) glass bottle from a depth of 3 feet (0.9 m). The sample bottle was sealed with a waxed cork. In 1961, a new style of bottle with a plastic-lined screw cap was brought into use. Tests of the sealing efficiency of the plastic cap during 180 days storage at the shore stations showed some instances of salinity increases as much as 0.02 ppt, which is within the limits of accuracy of the analysis method. The salinities were determined by a modified Mohr titration until early in 1959 when the use of a conductive salinometer was started. Late in 1969, the collection of salinity samples was replaced by measurement of seawater density by hydrometers.

A 25-oz (710 cc) water sample is collected for the hydrometer method. The procedures and equipment are similar to those used by the U.S. Coast and Geodetic Survey (Adams, 1942).

Accuracy of the data

The accuracy of the mercury thermometers used before 1937 is not recorded, but laboratory thermometers generally are considered to have an accuracy of 1 scale division, which would be either 0.5°F or 0.5°C . The red-liquid Fahrenheit thermometers used during 1937 to 1939 had an accuracy of 0.5°F (0.3°C). The mercury thermometers used after 1939 were compared with a calibrated thermometer, and the maximum allowable scale error was 0.3°F or 0.2°C .

The salinity data obtained before 1959 by titration have an accuracy of 0.06 ppt (Strickland and Parsons 1968). The data obtained by salinometer have an accuracy of 0.03 ppt (Strickland, MS 1958). Salinity data from hydrometer readings have an accuracy of 0.3 ppt. These data are not tabulated in this report because of the greatly decreased accuracy.

Annual data record publications

The daily oceanographic data to 1970 have been published in 30 annual data record volumes, which are listed in the Data Records section of the References. The reports of the 1914 to 1950 data contain tabulations of temperatures, salinity (after 1931) and density (either by hydrometer or from Sigma-t tables). From 1951 onward, the data records list temperature and salinity. Cumulative grand monthly means and moving 10-year monthly means were calculated and listed in the data records to 1968. Until 1964, the several statistical computations were done with mechanical adding machines and desk calculators. Thereafter, the data statistics have been computed by machine methods at the Canadian Oceanographic Data Centre in Ottawa, Ontario (Somers, 1965). Besides calculating the monthly and annual means, the computer program also determines for each month the maximum and minimum daily values, the number of observations, and the standard deviation. The daily data and computed statistics for most of the stations since their inception are recorded on magnetic tape stored at the Data Centre.

To make the variations and seasonal trends in the daily data more apparent, graphs of 7-day, equally-weighted running means of temperature and salinity were prepared from calculations done by hand. After 1965, the computer program calculated a normally-weighted mean (Holloway, 1958) and prepared an automatic plot. Publication of the graphs commenced in the 1955 data record. There are running mean calculations and graphs of data earlier than 1955 on file at the Pacific Environment Institute, West Vancouver, B.C.

Daily sea surface data not listed in this report, but published in the annual data records for 1954 to 1961, are temperature and salinity observations made at the U.S. Coast Guard lightships on Swiftsure Bank and Umatilla Reef.

Analysis and use of the data

One useful statistical application of the monthly mean data is a classification index based on the standard deviation of the monthly means in the 10-year moving average (Hollister, MS 1960, MS 1964; Tabata, 1957). This index is used to determine the degree of abnormality in the monthly mean temperatures and salinities, and thus detect significant short-term changes in the ocean environment. The 30-year means and standard deviations contained in this report have been used to prepare classifications in recent provisional studies of the data.

Commencing in March 1955, a weekly report on sea temperature conditions at several stations on the west coast and in the Strait of Georgia was written for the C.B.C. Farm and Fisheries Broadcast. The report was broadcast each Wednesday morning for 8 years until July 1963.

Considerable use of the daily data has been made to answer requests for immediate information about temperature and salinity conditions in the B.C. coastal region. The daily temperatures from several stations on the west coast of Vancouver Island have been used on a real-time basis by the Fisheries Service of the Department of the Environment for studies of coho salmon migration in the summer. Biologists of the International Pacific Salmon Fisheries Commission have used temperature and salinity data from stations in the Strait of Georgia to monitor the inshore oceanographic conditions in the Strait during the spring residency of pink salmon fry. Since September 1971, most of the stations have been reporting sea temperatures each day to the Ministry of Transport marine radio centres. These daily data are used by the METOC Centre at Esquimalt, B.C. in the preparation of 3-day mean sea surface temperature charts of the Northeast Pacific Ocean. The monthly mean sea temperatures from 4 West Coast stations are sent to the U.S. National Oceanic and Atmospheric Administration, National Fisheries Service, La Jolla, Calif., where they are used by the oceanographers to assist in preparing monthly mean sea surface temperature charts of the Northeast Pacific.

Sixty-nine reports have been written dealing with these shore station data. The majority of the reports describe the use of the data to monitor coastal ocean climatological variations. Fisheries papers have used the data to indicate inshore oceanographic conditions during the period of research. Several papers have used the data in time-series statistical analyses. Probably the most important of these are the reports presenting the results of autocorrelation, regression, and trend analyses of the data from 3 stations: Langara I., Triple I., Cape St. James (Anderson 1967; Anderson and Van Vliet 1967; Van Vliet 1965; Van Vliet and Anderson 1967).

Special observations at some stations

Observations commenced as early as 1914 at Departure Bay; 1921 at William Head; and 1927 at New Westminster. The procedures at these early stations were different from the standard procedures adopted in 1934. A brief history of these stations (below) explains the different procedures and describes the data observed.

Departure Bay

Daily observations of sea surface temperature and density measurements by hydrometer started June 1, 1914 at the Biological Station in Departure Bay. The observations were made at 8:30 a.m., generally. The original data sheets from September 12, 1914 are on file at West Vancouver. The data from September 1914 onward are published in the annual data records. Earlier data and discussions are presented in reports listed in the Bibliography: Cameron and Mounce (1922), Fraser (1921), Fraser and Cameron (1916) and Mounce (1922).

The original data sheets show that on November 14, 1930, Dr. Neal M. Carter commenced chloride analyses of daily seawater samples, using the Mohr titration method. In June 1931, John P. Tully took over the analytical duties. Salinity values are listed in the annual data records from June 1, 1931. Earlier data records tabulated observed density readings.

No observations were taken during August 1932 to June 1934. Daily observations commenced again on June 12, 1934, using the standard procedures which were later put into effect at other new stations. The observations were taken only each second or third day during January 1935 to March 1937, so numerous monthly means have been omitted from the tables because of insufficient data. From October 1935 to June 1937, bottom temperatures and water samples were obtained with a reversing thermometer attached to an Ekman water sampling bottle. The bottom temperature and salinity data have not been published, but the original records are available at West Vancouver.

Colorimetric determinations of pH were made on the surface water samples during September 1921 to March 1937, and on the bottom water samples from October 1935 to March 1937. These data have not been published.

A thermograph with the sensor bulb at 3 feet (0.9 m) depth was in operation on the floating wharf at the Station from April 1933 to December 1936. The weekly charts are on file.

William Head

Daily sea temperature observations were made from the wharf of the Quarantine Station at William Head during January 1921 to June 1940. The observations were taken by personnel in the pilotage section of the Department of Health. The observations were made on the hour, between 8 and 11 a.m. Until December 1933, the sea temperatures were observed at depths of 1 and 6 feet (0.3 and 1.8 m). From January 1934 to September 1936, only 6-foot depth observations were made. The 6-foot data for 1921 to 1936 are published

in the data records and are listed in this report. The 1-foot data are on file at West Vancouver. In October 1936, the observation procedures were made the same as the regular shore station program, with temperature and salinity data obtained at a depth of 3 feet (0.9 m) at the time of high tide. New thermometers and sampling equipment were also supplied at that time.

The Meteorological Branch of the then Department of Marine and Fisheries inaugurated the observations and supplied Fahrenheit thermometers to the first observer, Mr. Ira E. Cornwall. Copies of the observation records were sent to the Director of the Biological Station at Nanaimo, B.C. Captain G. Hansen took over the observation duties in March, 1935 and continued until his retirement in July 1940, when the observations were terminated.

Captain Hansen also took a series of temperatures at various depths during January 1923 to September 1938. Temperatures were obtained at 0, 5, 10, 20, and 40 fathoms (0, 9, 18, 37, and 73 m) until November 1925, when the 40-fathom observation was discontinued. In November 1933, observations were terminated at all depths except 0 and 20 fathoms. It is probable that these measurements were obtained by lowering a simple laboratory thermometer in its holder to each depth. The temperature readings are frequently the same for each depth, and the surface temperatures would be most reliable. These data have not been published, but the records are available at West Vancouver.

New Westminster

Records of water temperature observations in the Fraser River where the north arm joins the main channel are available from February 1927. A letter from the Department of Fisheries states that temperature observations commenced in November 1923, but none of the earlier records has been received here. The observations were made by personnel of the Department of Fisheries repair station, located on the northern end of Poplar Island until June 1939, and subsequently on the New Westminster waterfront, just $\frac{1}{2}$ mile (0.8 km) downstream from the first location. Tidal influences from the Strait of Georgia are still felt here, 11 miles (18 km) inland from the estuary. Copies of the original monthly records were sent to the Pacific Oceanographic Group at Nanaimo until December 1969, when they stopped.

The observations were taken at 8 or 8:30 a.m., using a thermometer with a Celsius scale supplied by the Department. In April 1936 the regular shore station thermometer was put into use. Until December 1941, the temperatures were measured in whole degrees Celsius, but subsequently they were recorded in $\frac{1}{4}$ degree intervals. In September 1953, the observers commenced using Fahrenheit thermometers and recording the readings in $\frac{1}{10}$ degree intervals.

Modifications to the standard observational procedures were made at several stations. These are explained in the following sections.

Cape Mudge

Until March 1970, the daily observations at Cape Mudge (Fig. 11) were taken at high water slack in Discovery Passage, as determined from the Canadian tide and current tables. After this date, the observations were taken at the time of high tide for Campbell River, which is across the Passage from the lightstation.

Porlier and Active Passes

At these two stations the observations were made twice-daily at the time of low and high water slack in each pass, as determined from the tide and current tables. Depending upon meteorological and Fraser River discharge conditions, there are instances when the tidal currents are ebbing or flooding, instead of being slack, at the observation time. Low water observations at Active Pass were terminated in February 1970. Observations at Porlier Pass (Fig. 12) ceased in February 1972.

East Point

The sampling location was changed 4 times at East Point during the 1953-1968 period of observation. The locations are shown on the photo in Figure 13. The best sampling location was at position 1, because the main flow from the Strait of Georgia through Boundary Pass was being sampled there. The observations were made at this location until September 1964, when it was abandoned because of difficulty in reaching it. Locations 2 and 3 were tried but these also were sometimes unsafe. Observations were terminated in March 1968 because the data obtained at position 4 were quite unsuitable for measuring oceanographic conditions in Boundary Pass (Hollister, MS 1971).

Race Rocks

The observations at Race Rocks were made at the time of high water slack, as determined from the tide and current tables, until January 1968. Thereafter, the observations were made at the time of high tide by the shore. This change was made to establish a more consistent method of determining the sampling time, because there are often days when no high water slack is listed in the current tables, just: "current weak and variable, possibly ebbing". There is no definite relation between the time of slack water and of high tide in this region.

THE MONTHLY AND ANNUAL MEAN TABULATIONS

The tables of monthly and annual mean temperature and salinity are arranged in the same order as the stations in Table 1. The majority of the tables are direct copies of the computer output. However, some tables listing data from stations with only a few years of observations were not prepared by the computer, and the grand monthly mean and annual mean values were calculated using a desk calculator.

Selection of data

The monthly mean data listed in the tables were obtained from the published annual data records. The data were re-examined before being used in the computations. The retrospective advantage of more than 30 years of data revealed some computational errors in the early work done before the machine computations started in 1964. Means with large anomalies, as indicated by their classification indices, were double-checked. It should be noted that tables of monthly mean values in earlier reports do contain some errors; Fisheries Research Board of Canada, Manuscript report (oceanographic and limnological) nos. 23, 68, 177.

A monthly mean for inclusion in the tables had to have at least 13 daily values distributed evenly throughout the month.

Monthly mean sea temperature data for Cape St. James have been omitted from the tables for the period November 1937 to October 1942 because there were instrument and observer errors in the daily data. Unfortunately, these errors went undetected until much later. During November 1953 to October 1954, only a few observations (6 to 10) were made each month, so valid monthly mean temperatures and salinities could not be calculated.

The overall accuracy of the monthly mean temperature data is $\pm 0.5^{\circ}\text{F}$ (0.3°C), and of the salinity data is ± 0.05 ppt.

Methods of computation

The computations program is written in FORTRAN 1130 (a subset of FORTRAN IV) and operates on an IBM 1130 computer operating under Version II monitor. A detailed listing of the program is contained in the Appendix. The program accepts standardized data cards for either temperature or salinity. The tabular print-out repeats the original data, checks for omitted entries, calculates an annual mean, and then calculates grand monthly mean values for the total observational period as well as a 30-year mean for 1941 to 1970. Standard deviations of these means are also produced, as well as a count of the number of data entries in each grand and 30-year monthly annual mean value. The mean and standard deviation values have been truncated at the indicated decimal place.

The 30-year period is 1941 to 1970 inclusive. If there are less than 15 years data in this period, the program does not make a calculation. This same 30-year period is also used in meteorological and hydrometric statistics to derive normal values. Sea temperature and salinity values for a 25-year (1941-1965) monthly mean were computed in an earlier version of the computer program. It should be noted that the salinity data are omitted for the last 3 months of 1969 and all of 1970 because the data in this period were derived from hydrometer readings, and have an accuracy of only 0.3 ppt.

The annual mean values are calculated from the monthly means. There is a well-defined annual temperature and salinity cycle at each shore station, so the omission of several monthly means can affect the accuracy of the annual mean. If more than 2 monthly means are missing in a year, the annual mean is not listed in the table. This correction was not included in the computer program, so the inexact annual means have been erased from the output sheets, and the affected grand and 30-year annual mean statistics re-calculated.

ACKNOWLEDGEMENTS

I wish gratefully to acknowledge the assistance received from the many observers who took the daily observations and maintained remarkable continuity in the data, despite the hazards of stormy weather and rough terrain at the sampling locations. A number of them worked for 10 years and longer, 3 for as long as 18 years. Excellent assistance and cooperation have always been given by the staffs of the Marine Transportation and Radio Service divisions of the Ministry of Transport. I sincerely thank Dr. John P. Tully for his good advice and continued strong encouragement throughout the course of the daily surface oceanographic observations program.

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Table 1. List of shore stations, locations, and periods of observation.

Station	Location		Period of observation
	Lat. N.	Long. W.	
Langara Island	54°15'	133°03'	November 1936 to August 1937; March 1940 to present
Green Island	54°34'	130°42'	February 1935 to August 1936
Prince Rupert	54°19'	130°18'	February 1934 to October 1935; January 1940 to May 1942
Triple Island	54°18'	130°53'	November 1939 to December 1970
Masset	54°01'	132°09'	December 1939 to October 1942
Port Clements	53°41'	132°11'	October 1941 to August 1942
Shannon Bay	53°39'	132°30'	December 1939 to August 1941
Sandspit	53°15'	131°49'	August 1953 to December 1956
Bonilla Island	53°30'	130°38'	April 1960 to present
McInnes Island	52°16'	128°43'	August 1954 to present
Ivory Island	52°16'	128°24'	August 1937 to December 1955
Cape St. James	51°56'	131°01'	August 1934 to present; intermittent observations 1938-42
Egg Island	51°15'	127°50'	March 1970 to present
Pine Island	50°58'	127°44'	January 1937 to present
Kains Island	50°27'	128°02'	January 1935 to present
Nootka	49°36'	126°37'	September 1934 to June 1953
Amphitrite Point	48°55'	125°32'	September 1934 to present
Sheringham Point	48°23'	123°55'	May 1968 to present
Race Rocks	48°18'	123°32'	May 1941 to present
William Head	48°20'	123°32'	January 1921 to June 1940

Table 1. cont'd

Station	Location		Period of Observation
	Lat. N.	Long. W.	
Pulteney Point	50°38'	127°09'	August 1954 to December 1957
Stuart Island	50°24'	125°08'	October 1950 to August 1951
Cape Mudge	50°00'	125°12'	January 1937 to present
Texada Island	49°42'	124°33'	May 1953 to October 1956
Sisters Island	49°29'	124°26'	May 1968 to present
Chrome Island	49°28'	124°41'	April 1961 to present
Entrance Island	49°13'	123°48'	June 1936 to present
Departure Bay	49°13'	123°57'	October 1914 to July 1932; June 1934 to present
Porlier Pass	49°01'	123°35'	February 1967 to February 1972
Ladysmith Harbour	49°00'	123°49'	July 1936 to June 1942; August 1949 to March 1957
Active Pass	48°52'	123°17'	February 1967 to present
East Point	48°47'	123°03'	July 1953 to February 1968
Beaver Point	48°46'	123°22'	November 1953 to December 1957
White Rock	49°01'	122°48'	June 1954 to June 1956
New Westminster	49°12'	122°56'	March 1927 to December 1969

APPENDIX

A detailed listing of the computations program

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PAGE 1
// JJJ
LUN DRIVE CART SPEC CART AVAIL PHY DRIVE
000 0000 0000
M2 M09 ACTUAL 15K CONFIS 15K
// FOR
*ONE WORD: INTERSERS
*JCS(2500: READER)
*JCS(1400: PRINTER)
*LIST ALL
*JMC TSTUT
C-----THIS PROGRAM WAS WRITTEN BY A M SANDAKS AUGUST 15, 1969
C-----IT WAS REVISED FOR THE 2511 READER AND 1403 PRINTER ON NOVEMBER 19, 1970
C-----THIS PROGRAM READS EITHER TEMPERATURE OR SALINITY DATA OR BOTH.
C-----THE TITLE CARD MUST HAVE AN 'S' PUNCHED IN COLUMN 21 FOR SALINITY
C-----DATA.
C
C J4T002R TITL(20)
C DIMENSION T00GT(13), T0TCN(13), T0UTM(13), T025M(13)
C DIMENSION T00(13), T025X(13), T025Y(13), T025CN(13), T0TGT(13)
C DIMENSION VAR(13), STDEV(13)
C LNP=0
C LNC=0
C-----INITIALIZATION
C
507 DO 508 I = 1, 13
    T0MP(I) = 0.0
    T025X(I) = 0.0
    T025Y(I) = 0.0
    T025CN(I) = 0
    T0TGT(I) = 0.0
    T00GT(I) = 0.0
    T0TCN(I) = 0
    T0UTM(I) = 0.0
    T025M(I) = 0.0
    VAR(I) = 0.0
    STDEV(I) = 0.0
508 CONTINUE
    TOTP = 0.0
C
C-----READ TITLE CARD. IF THE FIRST COLUMN IS BLANK CALL EXIT OTHERWISE
C-----CONTINUE. CHECK IF COLUMN 21 HAS AN 'S' PUNCHED IN IT TO INDICATE
C-----SALINITY DATA. IF IT HAS IT WILL READ FROM FORMAT 19 IF IT HAS NOT
C-----IT WILL READ FROM FORMAT 4.
C
C READ(10,1) TITL,M
C IF (TITL(1)-16443) 1003, 1004, 1005
C
C-----TEST IF M IS EQUAL TO AN 'S' (-7615 IS THE MACHINE EQUIVALENT)

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PAGE      2

1003 IF(M+7616)1008,1009,1004
1008 WRITE(LNP,2)TITL
      WRITE(LNP,3)
      LINE = 3
      GO TO 1001
1009 WRITE(LNP,12)TITL
      WRITE(LNP,3)
      LINE = 3
C
C-----READ DATA CARDS
C
1002 READ(LNC,19)IYR,(TEMP(I),I=1,12)
      GO TO 1010
1001 READ(LNC,4)IYR,(TEMP(I),I=1,12)
1010 IF(IYR)1004,500,600
C
C-----CALCULATE THE AVERAGE ANNUAL MEAN
C
600  NN = 12
      DO 100 I=1,12
      IF(TEMP(I))1000,1000,1007
1000  NN=NN-1
      TEMP(I)=1000.0
      GO TO 100
1007 TOTTP=TOTTP+TEMP(I)
      100 CONTINUE
      TEMP(13)=TOTTP/FLOAT(NN)
      TOTTP = 0.0
      IF(TEMP(13))205,204,205
      204 TEMP(13)=1000.0
C
C-----WRITE OUT THE AVERAGE MEANS BY MONTH + ANNUAL MEAN
C
C
C-----TEST IF M IS EQUAL TO AN 'S' (-7616 IS THE MACHINE EQUIVALENT)
C
      205 IF(M+7616)209,208,209
      209 WRITE(LNP,5)IYR,(TEMP(I),I=1,13)
      GO TO 210
      208 WRITE(LNP,20) IYR,(TEMP(I),I=1,13)
      210 DO 206 I=1,13
      IF(TEMP(I)-1000.0)206,207,206
      207 TEMP(I)=0.0
      206 CONTINUE
      LINE = LINE + 1
      IF(LINE - 50)1005,1006,1005
C
C-----TEST IF M IS EQUAL TO AN 'S' (-7616 IS THE MACHINE EQUIVALENT)
C
      1006 IF(M+7616)523,524,523
      523 WRITE(LNP,2)TITL
      GO TO 525
      524 WRITE(LNP,12)TITL
      525 WRITE(LNP,3)

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PAGE 3

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LINE = 3
1005 DO 200 I=1,13
      IF (TEMP(I))201,203,201
C-----ADD TO GRAND TOTALS
C
201 TOTGT(I)=TOTGT(I)+TEMP(I)
      TSQGT(I)=TSQGT(I)+TEMP(I)*TEMP(I)
      IGTCN(I)=IGTCN(I)+1
C-----TEST IF THE YEAR FITS INTO THE 25 YEAR PERIOD.
C
      IF (IYR-41)200,202,202
202 IF (IYR- 70)203,203,200
C-----ADD TO 30 YEAR TOTALS
C
203 T025X(I)=T025X(I)+TEMP(I)
      T02SQ(I)=T02SQ(I)+TEMP(I)*TEMP(I)
      I25CN(I)=I25CN(I)+1
200 CONTINUE
C-----READ ANOTHER CARD
C
C-----TEST IF M IS EQUAL TO AN 'S' (-7616 IS THE MACHINE EQUIVALENT)
C
      IF (M+7616)1001,1002,1001
500 IF (LINE - 35)501,501,502
C-----TEST IF M IS EQUAL TO AN 'S' (-7616 IS THE MACHINE EQUIVALENT)
C
      IF (M+7616)520,521,520
520 WRITE(LNP,2)TITL
      GO TO 522
521 WRITE(LNP,12)TITL
522 WRITE(LNP,3)
      LINE = 3
C-----MAKE UP GRAND TOTAL TABLES
C
501 DO 503 I=1,13
      TOTGMT(I)=TOTGT(I)/FLOAT(IGTCN(I))
      VAR(I)=(TSQGT(I)-(TOTGT(I)*TOTGT(I))/FLOAT(IGTCN(I)))/FLOAT(IGTCN(
      I)-1)
      STDEV(I)=SQRT(VAR(I))
503 CONTINUE
C-----TEST IF M IS EQUAL TO AN 'S' (-7616 IS THE MACHINE EQUIVALENT)
C
      IF (M+7616)509,510,509
C-----WRITE OUT GRAND MEAN TABLES, NUMBER OF ENTRIES OBTAINED AND THE
C-----STANDARD DEVIATION FOR EITHER TEMPERATURE OR SALINITY.

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C
509 WRITE(LNP,6)(TOSTM(I),I=1,12)
   WRITE(LNP,7)(IGTCN(I),I=1,13)
   WRITE(LNP,8)(STDEV(I),I=1,13)
   GO TO 511
510 WRITE(LNP,13)(TUGTM(I),I=1,13)
   WRITE(LNP,14)(IGTCN(I),I=1,13)
   WRITE(LNP,15)(STDEV(I),I=1,13)
C
C-----TEST IF NUMBER OF ENTRIES IS LESS THAN 15. IF THERE ARE MORE MAKE
C-----UP 25 YEAR MEAN TABLES.
C
511 IF(I25CN(13)-15)504,505,505
505 DO 506 I=1,13
   T025M(I)=T025X(I)/FLOAT(I25CN(I))
   VAR(I)=(T025SQ(I)-(T025X(I)*T025X(I))/FLOAT(I25CN(I)))/FLOAT(I25CN(
   CI)-1)
   STDEV(I)=SQRT(VAR(I))
506 CONTINUE
C
C-----TEST IF M IS EQUAL TO AN 'S' (-7616 IS THE MACHINE EQUIVALENT)
C
512 IF(M+7616)512,513,512
C
C-----WRITE OUT THE 25 YEAR MEAN TABLES,NUMBER OF ENTRIES OBTAINED AND
C-----THE STANDARD DEVIATION FOR EITHER TEMPERATURE OR SALINITY.
C
512 WRITE(LNP,9)(T025M(I),I=1,13)
   WRITE(LNP,7)(I25CN(I),I=1,13)
   WRITE(LNP,8)(STDEV(I),I=1,13)
   GO TO 514
513 WRITE(LNP,16)(T025M(I),I=1,13)
   WRITE(LNP,14)(I25CN(I),I=1,13)
   WRITE(LNP,15)(STDEV(I),I=1,13)
C
C-----TEST IF M IS EQUAL TO AN 'S' (-7616 IS THE MACHINE EQUIVALENT)
C
514 IF(M+7616)518,517,518
C
C-----WRITE OUT THE FOOTNOTES AND RETURN TO THE BEGINNING OF THE PROGRAM
C
518 WRITE(LNP,17)
   GO TO 507
517 WRITE(LNP,11)
   GO TO 507
504 WRITE(LNP,10)
C
C-----TEST IF M IS EQUAL TO AN 'S' (-7616 IS THE MACHINE EQUIVALENT)
C
515 IF(M+7616)516,515,516
515 WRITE(LNP,17)
   GO TO 507
516 WRITE(LNP,11)
   GO TO 507

```

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1004 CALL EXIT

C-----READ FORMAT FOR TITLE CARD

1 FORMAT(20A1,A1)

C-----WRITE AND READ FORMATS FOR TEMPERATURE

2 FORMAT(1H1,5X,20A1,17X,'MLA') SEAWATER TEMPERATURES IN DEGREES FAHR

1ENHCIT')

3 FORMAT(1H0,5X,'YEAR',12X,'JAN FEB MAR APRIL MAY J

6UNE JULY AUG SEPT OCT NOV DEC ANV',//)

4 FORMAT(21X,12,12F3.1)

5 FORMAT(1HN,5X,'19',12,7X,13(4X,F4.1))

6 FORMAT(1H0,'GRAND MEAN ',5X,13F8.1)

7 FORMAT(1H,'NO. OF ENTRIES ',13I8)

8 FORMAT(1H,'STANDARD DEV. ',13F8.1)

9 FORMAT(1H0,'30 YEAR MEAN ',13F8.1)

C-----WRITE AND READ FORMATS FOR SALINITY

12 FORMAT(1H1,5X,20A1,17X,'MEAN SEAWATER SALINITIES IN PARTS PER THOU

1SAND')

13 FORMAT(1H0,'GRAND MEAN ',5X,13F8.2)

14 FORMAT(1H,'NO. OF ENTRIES ',13I8)

15 FORMAT(1H,'STANDARD DEV. ',13F8.2)

16 FORMAT(1H0,'30 YEAR MEAN ',13F8.2)

19 FORMAT(21X,12,12F4.2)

20 FORMAT(1HN,5X,'19',12,7X,13(3X,F5.2))

C-----FOOTNOTE FORMATS

10 FORMAT(1H0,'NO. OF ENTRIES FOR 30 YEAR PERIOD IS LESS THAN 15')

11 FORMAT(1H0,'***** - INDICATES THAT THE DATA IS MISSING FOR THAT MO

1NTH')

17 FORMAT(1H0,'***** - INDICATES THAT THE DATA IS MISSING FOR THAT MO

1NTH')

END

VARIABLE ALLOCATIONS

TSQGT(R) = 0018-0000 TOTGM(R) = 0032-001A T025M(R) = 004C-0034 TEMP(R) = 0066-004E T025X(R) = 0080-0068 T02SQ(R) = 009A-0082
TOTGT(R) = 0084-009C VAR(R) = 00CE-0086 STDEV(R) = 00E8-00D0 TOTTP(R) = 00EA IGTCN(I) = 00FE-00F2 I25CN(I) = 0108-00FF
TITL(I) = 011F-010C LNP(I) = 0120 LNC(I) = 0121 I(I) = 0122 M(I) = 0123 LINE(I) = 0124
IYR(I) = 0125 NN(I) = 0126

STATEMENT ALLOCATIONS

1 = 013E 2 = 0142 3 = 0162 4 = 019F 5 = 01A4 6 = 01B0 7 = 01BD 8 = 01C8 9 = 01D9 12 = 01E7
13 = 0206 14 = 0213 15 = 0221 16 = 022F 19 = 023D 20 = 0242 10 = 024E 11 = 0268 17 = 028C 507 = 02C8
508 = 0317 1003 = 0334 1008 = 033A 1009 = 034B 1002 = 035A 1001 = 0374 1010 = 038C 600 = 0392 1000 = 03A4 1007 = 03B5
100 = 03CJ 204 = 03DD 205 = 03E3 209 = 03E9 208 = 0404 210 = 041D 207 = 042D 206 = 0436 1006 = 0448 523 = 0451
524 = 045A 525 = 0461 1005 = 0469 201 = 0477 202 = 049D 203 = 04A3 200 = 04C3 500 = 04D4 502 = 04DA 520 = 04EO
521 = 04E9 522 = 04F0 501 = 04F8 503 = 055A 509 = 0569 510 = 0580 511 = 05F5 505 = 05FD 506 = 065F 512 = 066E
513 = 0635 514 = 06FA 518 = 0700 517 = 0706 504 = 070C 515 = 0716 516 = 071C 1004 = 0722

FEATURES SUPPORTED

PAGE 6

ONE WORD INTEGERS
IUCS

CALLED SUBPROGRAMS
FSQRT FADDX FSUB
SCOMP SFIO SIOAI SIOFX SIOIX SIOI

FSIOX PRNZ
FSBRX
FDVR
FDOAT
READZ
SRED
SWRT

REAL CONSTANTS
.000000E 00=012C .100000E 04=012E

INTEGER CONSTANTS
5=0130 8=0131 1=0132 13=0133
41=013A 70=013B 35=013C 15=013D

0=0134 16448=0135 7616=0136 3=0137 12=0138 50=0139

CORE REQUIREMENTS FOR TSOT
COMMON 0 VARIABLES 300 PROGRAM 1528

END OF COMPILATION

// XEQ



Fig. 2. The landing cove at Langara Island at low tide.
The observations are taken from the steps.



Fig. 3. The oceanographic observations at Bonilla Island
are taken from the rocky shore in the center.



Fig. 4. The northeastern shore of Egg Island. The observations are taken at the foot of the loading derrick.



Fig. 5. A closer view of the shore at Egg Island. The observer walks down the narrow plank to take the observations.



Fig. 6. An aerial view of Cape St. James. The circle indicates where the oceanographic observations are taken. (RCAF Air Photo AY 581, 1943).



Fig. 7. The landing cove at Cape St. James. The observer stands on the steps or the platform.



Fig. 8. An aerial view of Amphitrite Point. The arrow indicates where the observations are taken. (B.C. Gov't. Air Photo 1855-80).



Fig. 9. The observer at Amphitrite Point takes the observation at the head of this rocky defile, on the crest of the swell.



Fig. 10. The observations at Pine Island are taken from this rocky shore. In November 1963 a swell rose as high as the decking at the top left, washing out the wood pile.



Fig. 11. An aerial view of Cape Mudge. The observations are taken at the location indicated by the arrow. Note the turbulent flooding current. (B.C. Gov't Air Photo 1442-2).



Fig. 12. An aerial view of Porlier Pass. The arrow indicates the observation location. Note the muddy surface water in the Fraser River plume. (B.C. Gov't Air Photo 5046-1, June 15, 1962).



Fig. 13. An aerial view of East Point. The numbered arrows indicate the 4 sampling locations used during 1953-1968. Scale: approx. 800 ft. per inch (B.C. Gov't Air Photo 5124-327).

TABLES

Tables of monthly and annual mean sea temperature (F) and salinity (ppt). The stations are arranged in the same order as in Table 1.

LANGARA ISLAND

MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1936	***	***	***	***	***	***	***	***	***	***	50.5	46.1	***
1937	43.3	41.1	43.4	45.0	47.6	49.4	53.2	53.4	***	***	***	***	***
1938	***	***	***	***	***	***	***	***	***	***	***	***	***
1939	***	***	***	***	***	***	***	***	***	***	***	***	***
1940	***	***	46.6	48.0	50.7	52.6	53.4	55.4	53.2	51.9	48.2	47.3	***
1941	45.9	45.7	46.0	47.6	48.6	51.8	54.9	53.4	52.3	50.9	48.8	46.5	***
1942	45.3	45.7	45.3	45.9	48.0	49.8	52.8	52.3	50.9	52.8	47.0	44.8	49.3
1943	42.5	42.6	42.1	44.2	45.8	***	***	54.9	53.7	51.8	48.3	46.7	48.4
1944	43.4	44.5	43.7	45.1	46.9	49.6	51.7	50.4	50.2	52.3	49.0	46.3	***
1945	45.8	44.7	44.4	44.5	47.2	49.1	51.7	51.7	50.8	50.5	45.1	43.6	47.9
1946	43.5	43.3	43.1	45.0	47.7	49.9	52.8	53.9	52.8	49.9	44.7	42.5	47.4
1947	40.9	40.4	42.7	44.1	47.4	49.1	53.1	52.9	53.2	51.6	47.5	45.5	47.5
1948	43.7	40.3	42.7	43.8	46.7	48.8	51.5	50.9	53.2	50.0	46.6	42.0	46.8
1949	42.0	40.9	42.2	43.6	45.8	49.3	51.0	53.8	53.3	50.6	48.3	43.5	47.0
1950	34.1	40.0	41.5	43.4	45.9	48.4	53.4	54.4	53.6	50.3	44.9	44.0	46.5
1951	42.8	42.4	41.3	43.6	46.6	48.8	50.6	53.4	51.3	49.7	47.1	43.7	46.6
1952	41.3	41.5	42.1	43.6	47.4	49.8	51.4	51.7	53.3	52.3	48.8	45.4	47.2
1953	40.8	43.4	43.1	45.0	47.4	49.8	53.0	54.2	54.8	51.2	48.1	45.9	48.0
1954	42.3	42.0	42.0	42.8	45.7	49.2	50.7	50.4	51.6	50.9	48.7	46.1	46.8
1955	45.3	44.2	42.3	43.7	45.4	48.3	49.5	51.5	50.6	49.5	44.4	42.2	46.4
1956	41.3	41.1	41.8	43.0	46.4	49.3	50.3	52.7	50.0	49.7	46.6	44.0	46.3
1957	42.2	41.7	41.8	43.7	46.4	50.0	52.7	54.0	55.3	51.9	50.1	45.1	47.9
1958	45.1	45.0	45.3	48.4	50.1	***	51.4	51.9	***	***	***	43.9	***
1959	41.4	41.7	44.9	46.9	48.9	49.1	53.1	52.9	52.4	50.6	47.1	46.8	47.5
1960	43.9	43.4	43.2	43.7	47.6	49.2	52.2	52.1	52.5	51.0	47.3	45.6	47.6
1961	44.8	44.6	44.2	45.2	48.0	51.3	52.6	52.4	53.1	49.4	46.3	44.1	47.9
1962	42.7	42.7	42.6	44.5	46.0	***	51.1	52.2	52.2	51.8	48.6	46.4	47.4
1963	44.8	45.5	44.9	45.8	48.5	50.5	52.9	53.5	56.5	53.2	47.3	46.2	49.1
1964	45.2	44.6	43.6	44.2	45.8	48.5	51.7	52.9	50.4	50.4	46.5	42.6	47.1
1965	42.0	42.3	42.9	44.5	45.9	48.0	49.9	51.9	50.1	51.4	47.5	45.2	46.7
1966	43.3	43.5	43.3	44.4	46.1	48.5	49.8	51.7	53.2	50.0	46.5	44.6	47.0
1967	43.5	43.4	42.5	44.0	46.8	48.1	51.8	54.7	55.7	51.5	48.2	44.8	47.9
1968	42.5	42.4	44.1	44.3	45.9	50.0	52.5	53.6	54.8	50.2	47.5	43.9	47.6
1969	40.9	40.8	41.7	43.7	46.5	49.0	52.0	52.4	52.7	51.3	48.2	46.9	47.1
1970	43.8	44.9	45.1	45.2	46.7	48.9	51.5	52.8	50.4	49.0	46.5	43.4	47.3
GRAND MEAN	43.1	42.9	43.3	44.6	47.0	49.5	51.9	52.8	52.6	50.9	47.4	44.8	47.4
NO. OF ENTRIES	31	31	32	32	32	29	31	32	30	30	31	32	28
STANDARD DEV.	1.8	1.5	1.3	1.3	1.2	1.1	1.2	1.2	1.7	1.1	1.4	1.4	0.7
30 YEAR MEAN	43.1	42.9	43.1	44.5	46.8	49.4	51.8	52.7	52.5	50.8	47.2	44.7	47.4
NO. OF ENTRIES	30	30	30	30	30	27	29	30	29	29	29	30	28
STANDARD DEV.	1.8	1.6	1.2	1.2	1.0	0.9	1.2	1.1	1.7	1.0	1.3	1.4	0.7

**** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

LANGARA ISLAND

MEAN SEAWATER SALINITIES IN PARTS PER THOUSAND

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1936	32.04	32.51	32.35	32.44	32.36	32.34	31.90	32.33	32.38	32.09	32.08	31.87	32.08
1937	32.04	32.51	32.35	32.44	32.36	32.34	31.90	32.33	32.38	32.09	32.08	31.87	32.08
1938	32.04	32.51	32.35	32.44	32.36	32.34	31.90	32.33	32.38	32.09	32.08	31.87	32.08
1939	32.04	32.51	32.35	32.44	32.36	32.34	31.90	32.33	32.38	32.09	32.08	31.87	32.08
1940	32.22	32.37	32.35	32.27	32.26	32.14	32.11	32.17	32.23	32.18	32.17	32.11	32.17
1941	32.13	32.20	32.21	32.22	32.15	32.34	32.26	32.50	32.80	32.40	32.30	32.26	32.30
1942	32.36	32.18	32.25	32.30	32.33	32.34	32.26	32.50	32.80	32.40	32.30	32.26	32.30
1943	32.35	32.29	32.51	32.45	32.44	32.48	32.35	32.66	32.38	32.40	32.33	32.31	32.33
1944	32.24	32.26	32.17	32.11	32.26	32.64	32.57	32.43	32.40	32.16	32.44	32.17	32.18
1945	32.01	32.15	32.16	32.53	32.54	32.46	32.18	32.20	31.72	32.09	32.30	32.29	32.32
1946	32.34	32.31	32.23	32.35	32.36	32.34	32.14	32.09	32.16	32.07	32.02	32.23	32.21
1947	31.92	32.44	32.31	32.64	32.43	32.27	32.45	32.41	32.14	32.11	32.03	32.03	32.26
1948	31.94	32.56	32.55	32.18	32.44	32.14	32.16	31.95	32.17	32.14	31.63	31.63	32.12
1949	32.69	32.37	32.43	32.30	32.25	32.39	31.98	32.18	31.98	32.09	31.82	31.72	32.18
1950	31.79	32.17	32.25	32.32	32.29	32.14	32.24	32.29	32.26	32.27	32.20	32.24	32.20
1951	32.27	32.06	32.26	32.16	32.17	32.27	31.73	32.31	32.21	32.03	32.10	32.09	32.13
1952	32.19	32.33	32.19	32.24	32.16	32.11	32.02	31.92	31.89	31.83	31.82	32.01	32.05
1953	32.17	31.94	32.13	32.29	32.36	32.22	32.03	32.07	32.26	32.16	32.01	31.74	32.11
1954	31.99	31.84	32.14	31.97	32.04	32.22	32.06	32.05	32.29	32.10	32.36	32.29	32.11
1955	32.34	32.39	32.14	32.18	32.24	32.17	31.71	32.18	32.12	32.29	32.22	32.27	32.22
1956	32.19	32.50	32.48	32.48	32.43	32.30	31.66	32.25	32.29	32.23	32.03	31.93	32.23
1957	32.11	32.26	32.20	32.09	31.40	32.14	32.14	32.15	32.22	31.80	32.00	32.01	32.04
1958	31.95	31.98	31.91	32.21	32.37	32.39	32.19	32.21	32.00	31.95	31.88	31.96	32.08
1959	31.98	32.09	32.17	32.22	32.36	32.17	31.71	32.18	32.22	31.95	31.98	31.90	32.07
1960	32.06	32.00	31.93	31.88	32.25	32.02	31.77	32.20	32.29	31.94	31.72	31.98	32.01
1961	31.94	32.02	32.35	32.16	32.33	32.32	32.32	32.02	32.04	32.03	31.94	31.91	32.09
1962	32.13	32.12	32.01	32.06	31.96	31.94	32.28	32.30	32.01	31.98	31.77	31.96	32.04
1963	31.93	31.82	32.04	32.07	32.28	32.31	31.91	31.92	32.01	32.05	31.90	32.02	32.02
1964	32.21	32.16	32.42	32.29	32.22	32.29	32.39	32.23	32.42	32.19	31.92	32.12	32.23
1965	32.24	32.03	32.08	32.08	32.19	32.37	31.69	32.17	32.09	31.90	32.02	32.04	32.07
1966	32.13	32.08	32.33	32.26	32.11	32.07	31.81	31.82	31.75	31.71	31.77	31.90	31.97
1967	32.08	32.18	32.11	32.15	32.22	32.25	32.30	32.00	31.89	31.90	31.97	31.86	32.07
1968	32.03	31.98	32.15	32.12	32.23	32.05	32.21	32.06	32.03	32.03	32.03	32.03	32.03
1969	32.03	31.98	32.15	32.12	32.23	32.05	32.21	32.06	32.03	32.03	32.03	32.03	32.03
1970	32.03	31.98	32.15	32.12	32.23	32.05	32.21	32.06	32.03	32.03	32.03	32.03	32.03

GRAND MEAN	32.14	32.19	32.22	32.23	32.25	32.25	32.10	32.16	32.17	32.07	32.02	32.04	32.15
NO. OF ENTRIES	30	30	31	31	30	29	30	29	30	29	30	30	28
STANDARD DEV.	0.21	0.21	0.15	0.17	0.21	0.15	0.24	0.19	0.23	0.17	0.20	0.19	0.09

30 YEAR MEAN	32.14	32.18	32.22	32.22	32.24	32.24	32.10	32.18	32.16	32.07	32.01	32.04	32.15
NO. OF ENTRIES	29	29	29	29	28	27	28	28	29	28	28	28	27
STANDARD DEV.	0.18	0.19	0.15	0.17	0.21	0.15	0.24	0.18	0.23	0.17	0.20	0.19	0.09

***** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

GREEN ISLAND

MONTHLY MEAN SEA TEMPERATURES F

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1935	-	42.9	41.9	44.5	-	53.2	56.6	56.7	54.3	47.3	44.0	44.9	-
1936	42.4	-	41.5	44.0	49.3	56.2	58.7	60.0	-	-	-	-	-

MONTHLY MEAN SALINITIES ‰

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1935	-	30.06	31.24	31.26	-	24.13	23.61	23.47	26.72	29.00	29.79	30.47	-
1936	30.71	-	31.91	31.03	26.99	22.37	25.59	25.62	-	-	-	-	-

PRINCE RUPERT

MONTHLY MEAN SEA TEMPERATURES F

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1940	44.9	44.3	43.9	46.8	50.2	53.5	55.8	55.0	54.2	51.2	48.3	46.8	49.6
1941	45.4	44.7	45.6	48.4	51.0	52.1	56.4	56.2	53.2	50.5	48.8	46.1	49.9
1942	45.3	44.9	44.6	46.7	50.4	-	-	-	-	-	-	-	-
MEAN	45.2	44.6	44.7	47.3	50.5	-	-	-	-	-	-	-	-

MONTHLY MEAN SALINITIES ‰

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1940	29.22	29.51	29.31	27.51	25.13	22.84	23.87	24.36	27.04	27.20	29.56	28.57	27.01
1941	29.57	29.21	29.37	28.57	26.53	24.69	26.10	29.02	27.66	26.30	26.00	27.76	27.56
1942	28.74	29.36	28.73	28.51	25.16	-	-	-	-	-	-	-	-
MEAN	29.18	29.36	29.14	28.20	25.61	-	-	-	-	-	-	-	-

TRIPLE ISLAND

MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1940	43.0	47.3	47.3	48.7	51.5	54.6	56.1	55.7	54.3	51.9	49.4	48.7	51.1
1941	47.5	45.3	46.0	47.5	49.8	54.0	55.9	55.6	53.1	51.4	49.4	47.8	50.3
1942	46.3	46.2	45.2	46.3	48.9	52.9	56.7	53.9	51.7	51.1	47.7	45.8	49.3
1943	43.2	43.0	42.7	44.2	47.2	51.0	52.7	53.3	51.9	50.4	49.0	47.6	48.0
1944	46.7	45.5	44.3	45.4	47.4	51.5	53.8	53.3	52.0	50.9	49.5	47.9	49.0
1945	47.1	45.5	44.7	45.0	48.2	50.8	53.3	54.3	51.4	49.8	46.4	44.7	48.4
1946	44.2	43.6	44.1	44.6	48.4	52.0	54.4	54.9	52.9	50.2	46.4	43.5	48.2
1947	41.8	41.9	43.1	44.4	47.3	52.0	54.3	55.5	53.2	50.9	48.5	46.8	48.3
1948	44.8	43.0	43.0	44.3	47.3	52.7	53.9	54.2	52.5	50.7	47.3	43.6	48.1
1949	41.7	40.3	41.7	42.8	47.1	50.4	53.2	54.2	53.0	50.1	48.9	45.0	47.3
1950	39.5	40.5	41.6	43.4	45.5	51.3	54.1	55.0	53.7	50.6	46.8	45.6	47.2
1951	43.9	43.2	41.7	43.3	46.6	51.4	53.6	55.4	53.0	49.7	47.5	44.9	47.8
1952	43.0	42.4	42.5	43.8	47.4	49.9	53.8	53.7	53.2	51.8	49.2	46.9	48.1
1953	43.4	44.1	43.6	45.1	48.7	52.4	54.9	55.3	53.8	51.0	49.2	47.4	49.0
1954	44.4	42.6	42.8	43.5	46.7	50.3	53.0	54.1	53.9	50.2	48.8	46.6	48.0
1955	45.3	44.3	42.2	43.7	46.3	50.4	53.0	52.8	52.6	49.5	45.8	43.3	47.4
1956	42.7	42.7	42.5	43.7	46.0	50.3	54.7	54.9	52.6	48.8	46.7	46.3	47.6
1957	40.2	40.3	41.8	44.1	47.7	54.5	54.9	57.2	56.4	50.3	48.7	48.3	48.6
1958	47.1	46.1	45.4	47.8	50.0	55.5	55.1	56.9	54.2	51.4	47.3	46.0	50.2
1959	43.4	44.0	43.3	45.4	48.5	51.9	55.3	54.6	52.8	50.8	47.4	45.4	48.5
1960	43.6	44.1	43.3	44.9	48.0	51.0	54.4	54.6	52.8	49.9	47.6	46.0	48.3
1961	45.1	44.7	45.0	46.2	49.8	52.6	55.8	56.3	53.6	49.9	46.2	43.6	49.0
1962	42.5	41.7	41.8	43.9	46.2	49.9	52.7	54.7	53.2	50.6	49.4	47.1	47.8
1963	45.5	45.5	45.0	46.2	48.9	52.2	55.1	55.8	55.7	53.3	48.5	47.3	49.9
1964	46.6	45.0	44.3	44.7	46.7	52.2	53.6	55.1	53.3	50.9	47.6	44.8	48.7
1965	42.6	42.6	42.7	43.7	46.2	49.7	52.8	54.0	51.1	49.8	47.7	46.8	47.4
1966	44.0	44.5	44.6	45.5	46.8	51.0	53.8	55.5	53.6	50.7	47.5	44.8	48.5
1967	44.5	44.1	42.1	44.6	48.8	52.4	54.8	55.9	55.3	52.5	47.8	43.9	48.8
1968	42.7	42.5	44.1	45.0	48.5	52.3	56.0	56.0	54.3	50.8	47.4	44.8	48.6
1969	****	****	42.3	43.7	47.9	52.9	54.2	53.4	53.1	51.5	49.6	47.9	48.4
1970	43.3	45.2	45.2	45.4	47.2	51.4	53.1	53.6	51.1	49.0	46.6	****	48.3
GRAND MEAN	44.2	43.7	43.5	44.8	47.8	51.8	54.2	54.8	53.2	50.6	47.9	45.9	48.5
NU. OF ENTRIES	30	30	31	31	31	31	31	31	31	31	31	30	31
STANDARD DEV.	2.1	1.8	1.4	1.3	1.3	1.4	1.1	1.0	1.2	0.9	1.1	1.5	0.9
30 YEAR MEAN	44.0	43.6	43.4	44.7	47.6	51.7	54.2	54.7	53.1	50.6	47.8	45.8	48.4
NU. OF ENTRIES	29	29	30	30	30	30	30	30	30	30	30	29	30
STANDARD DEV.	2.0	1.7	1.3	1.2	1.1	1.3	1.0	1.0	1.2	0.9	1.1	1.5	0.7

**** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

MEAN SEAWATER SALINITIES IN PARTS PER THOUSAND

TRIPLE ISLAND

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1940	31.32	31.50	31.60	31.33	30.33	27.73	27.73	30.25	30.96	31.51	31.77	31.61	30.64
1941	31.83	31.61	31.52	31.32	31.03	30.65	29.03	30.24	31.45	31.56	31.48	31.53	31.10
1942	31.59	31.70	31.65	31.78	30.28	28.48	28.37	30.52	31.04	32.06	31.51	31.97	30.91
1943	31.19	31.60	31.78	31.96	31.03	29.13	28.93	30.58	30.55	31.26	31.89	31.91	30.98
1944	32.10	31.81	31.87	31.84	31.31	29.48	30.02	30.35	30.97	31.29	31.76	32.02	31.23
1945	32.00	32.00	32.03	32.12	30.72	30.78	29.14	29.33	31.53	31.66	31.60	32.17	31.25
1946	32.05	31.99	31.79	31.73	30.18	29.36	29.75	28.58	30.53	31.57	31.52	31.82	30.90
1947	31.92	31.98	31.76	31.76	30.69	28.76	31.21	30.52	30.44	31.61	31.37	31.59	31.13
1948	31.60	31.64	31.74	31.86	30.85	26.34	29.58	30.40	30.78	31.37	31.51	31.67	30.78
1949	31.80	31.90	31.92	31.91	31.18	30.56	28.82	30.83	30.40	31.21	31.46	31.56	31.12
1950	31.89	32.23	32.33	32.23	31.77	27.90	30.38	29.62	30.40	31.10	31.37	31.23	31.04
1951	31.26	31.33	31.70	31.62	31.33	28.53	30.76	30.31	30.67	31.82	32.14	31.90	31.11
1952	32.00	31.93	31.74	31.83	29.83	29.75	28.99	30.48	31.12	30.29	31.37	31.76	30.92
1953	31.78	31.89	31.82	31.81	29.82	28.46	30.27	30.48	31.04	31.65	31.34	31.37	30.95
1954	31.47	31.19	31.43	31.12	30.69	28.83	28.37	28.84	31.04	30.93	31.19	31.29	30.53
1955	30.81	30.95	31.33	30.29	31.29	29.23	27.70	29.76	30.11	31.58	31.24	31.66	30.49
1956	31.89	31.78	31.82	31.67	31.41	31.16	28.27	29.85	31.09	31.93	31.40	31.35	31.13
1957	31.37	30.94	31.97	32.06	30.66	29.22	31.19	31.09	30.22	31.40	31.69	31.73	31.12
1958	31.74	31.43	31.44	31.29	30.47	27.00	30.95	30.67	31.08	31.40	31.34	31.37	30.84
1959	31.45	31.51	31.67	31.41	30.13	29.75	29.38	29.71	30.37	31.37	31.36	31.57	30.80
1960	31.57	31.85	31.79	31.71	31.37	30.13	26.47	29.28	30.51	31.14	31.33	31.66	30.73
1961	31.67	31.24	31.48	31.30	30.84	29.36	29.00	30.57	31.15	31.35	31.29	31.54	30.89
1962	31.78	31.64	31.84	31.88	31.65	30.11	27.74	30.73	30.75	31.78	31.44	31.39	31.06
1963	31.16	31.29	31.23	31.61	31.17	29.42	28.80	29.38	31.00	31.59	31.22	31.29	30.76
1964	31.37	31.25	31.23	31.30	31.13	28.53	28.71	30.75	30.65	31.43	31.21	31.52	30.76
1965	31.82	31.80	31.56	31.85	31.33	29.31	28.19	29.36	30.96	31.93	31.40	31.76	30.93
1966	31.67	31.65	31.73	31.40	31.15	29.99	30.10	30.26	31.23	31.27	31.14	31.60	31.09
1967	31.67	31.63	31.53	31.49	31.38	27.68	29.24	29.82	31.17	30.91	30.97	31.38	30.73
1968	31.41	31.37	31.44	31.49	31.23	30.30	28.99	29.72	31.26	31.21	31.20	31.44	30.92
1969	31.39	31.62	31.75	31.75	31.34	28.69	30.29	30.45	30.88	31.17	31.36	*****	30.96
1970	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
GRAND MEAN	31.62	31.61	31.68	31.62	30.91	29.15	29.21	30.09	30.83	31.41	31.42	31.60	30.93
NO. OF ENTRIES	30	30	30	30	30	30	30	30	30	30	30	29	30
STANDARD DEV.	0.30	0.31	0.23	0.37	0.52	1.11	1.13	0.62	0.36	0.35	0.24	0.24	0.19
30 YEAR MEAN	31.63	31.61	31.69	31.63	30.93	29.20	29.26	30.08	30.83	31.40	31.41	31.60	30.94
NO. OF ENTRIES	23	29	23	29	29	29	29	29	29	29	29	28	29
STANDARD DEV.	0.30	0.32	0.23	0.37	0.51	1.10	1.11	0.63	0.36	0.36	0.23	0.24	0.19

***** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

MASSET

MONTHLY MEAN SEA TEMPERATURES F

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1940	46.1	45.9	45.6	48.9	52.3	54.7	55.9	57.2	55.6	53.4	48.4	46.5	50.9
1941	44.8	44.1	44.4	48.0	48.6	54.1	57.5	58.4	55.9	51.9	48.9	45.0	50.1
MEAN	45.5	45.0	45.0	48.5	50.5	54.4	56.7	57.8	55.8	52.7	48.7	45.8	50.5

MONTHLY MEAN SALINITIES ‰

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1940	27.76	27.70	27.04	26.70	26.10	26.77	28.27	27.41	27.79	28.30	27.75	28.77	27.53
1941	28.75	27.85	28.21	27.23	26.56	27.12	27.85	28.16	29.09	28.78	28.29	28.83	28.06
MEAN	28.26	27.78	27.63	26.97	26.33	26.95	28.06	27.79	28.44	28.54	28.02	28.80	27.80

PORT CLEMENTS

MONTHLY MEAN SEA TEMPERATURES F

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
--	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

1941	--	--	--	--	--	--	--	--	--	54.4	51.1	44.0	--
1942	42.8	43.3	42.6	43.8	50.5	55.9	56.4	58.7	--	--	--	--	--

MONTHLY MEAN SALINITIES ‰

1941	--	--	--	--	--	--	--	--	--	21.33	19.61	19.65	--
1942	17.49	18.37	19.05	20.14	20.42	21.10	21.46	22.43	--	--	--	--	--

SHANNON BAY

MONTHLY MEAN SEA TEMPERATURES F

1940	45.9	44.7	45.4	50.3	56.0	58.5	60.1	61.4	60.9	56.0	50.0	46.1	52.9
1941	44.5	43.9	46.9	50.5	53.3	58.7	62.8	64.1	--	--	--	--	--

MONTHLY MEAN SALINITIES ‰

1940	18.27	18.03	19.01	19.05	19.80	20.33	21.05	19.21	20.25	20.57	20.48	18.93	19.58
1941	19.56	20.07	20.06	20.65	21.13	21.12	22.51	22.85	--	--	--	--	--

SANDSPIT

MONTHLY MEAN SEA TEMPERATURES F

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1953								61.2	59.2	53.6	47.9	44.7	-
1954	41.0	37.5	39.5	42.8	46.5	49.2	52.0	55.7	53.4	50.6	47.3	45.2	46.7
1955	43.0	42.1	39.4	41.7	45.7	52.2	57.1	55.9	53.4	49.4	43.4	38.1	46.8
1956	-	43.7	40.9	43.2	38.2	52.5	55.5	58.9	57.7	54.7	48.4	43.5	49.7
MEAN	42.0	41.1	39.9	42.6	46.8	51.3	54.9	57.9	55.9	52.1	46.8	43.2	47.9

MONTHLY MEAN SALINITIES ‰

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1953								31.68	31.02	30.06	29.92	30.12	-
1954	30.81	30.40	30.54	30.69	30.66	31.05	30.38	31.48	31.43	30.44	27.70	30.37	30.50
1955	30.10	29.76	30.47	29.91	30.89	31.13	31.38	-	-	31.39	30.01	30.67	-
1956	-	31.16	31.49	29.86	30.51	31.27	31.58	31.59	31.31	30.62	30.56	29.65	30.78
MEAN	30.46	30.44	30.50	30.15	30.69	31.15	31.11	31.58	31.25	30.63	29.55	30.20	30.64

BONILLA ISLAND MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1960	***	***	***	45.3	48.4	51.0	***	53.2	***	50.8	48.0	45.1	***
1961	44.4	43.7	44.5	46.7	49.9	52.8	54.6	53.9	53.7	50.1	45.7	42.4	48.5
1962	42.1	42.4	41.7	44.7	47.6	50.5	51.5	53.3	52.4	50.9	48.7	46.7	47.7
1963	44.5	45.6	45.3	46.6	50.0	52.2	52.9	53.6	55.1	53.4	48.8	46.8	49.5
1964	45.7	45.2	44.7	45.7	47.8	52.1	54.4	55.5	53.0	51.3	46.2	43.0	48.7
1965	41.8	42.2	43.3	44.6	47.9	51.3	52.8	51.5	49.8	50.1	46.3	45.7	47.2
1966	42.9	43.9	44.3	46.3	48.2	51.9	53.8	54.9	54.2	50.9	47.1	44.3	48.5
1967	44.0	44.2	43.9	45.9	49.3	51.6	55.0	55.4	56.5	53.1	49.2	45.5	49.4
1968	42.9	42.6	44.9	45.9	49.5	54.0	56.1	55.0	55.5	50.7	47.3	43.9	49.0
1969	43.0	40.0	42.8	44.3	49.6	52.9	54.5	53.8	53.4	51.7	48.9	46.6	48.2
1970	43.8	45.2	45.3	46.2	48.9	52.7	54.0	53.6	51.7	49.6	47.2	43.1	48.4
GRAND MEAN	43.2	43.5	44.0	45.6	48.8	52.0	53.9	54.0	53.5	51.1	47.5	44.8	48.5
NO. OF ENTRIES	10	10	10	11	11	11	10	11	10	11	11	11	10
STANDARD DEV.	1.6	1.7	1.1	0.8	0.8	0.9	1.2	1.2	1.9	1.1	1.2	1.5	0.7

NO. OF ENTRIES FOR 30 YEAR PERIOD IS LESS THAN 15

*** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

RONILLA ISLAND MEAN SEAWATER SALINITIES IN PARTS PER THOUSAND

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1960	****	****	****	31.65	31.18	31.39	****	31.09	****	31.44	30.50	31.29	****
1961	31.39	31.15	31.22	31.18	31.08	31.17	31.30	31.74	31.77	31.49	31.26	31.26	31.33
1962	31.59	31.55	31.68	31.75	31.95	31.65	31.80	31.31	31.73	31.53	31.15	31.06	31.56
1963	30.88	31.05	31.35	31.48	31.55	31.52	31.70	31.74	31.56	31.40	30.93	30.88	31.33
1964	31.17	31.13	31.10	31.37	31.75	31.71	31.08	31.01	31.26	31.25	30.70	31.20	31.22
1965	31.48	31.59	31.67	31.67	31.76	31.75	31.75	32.12	32.24	31.82	30.90	31.43	31.68
1966	31.38	31.31	31.43	31.47	31.32	31.09	31.22	31.29	31.10	31.27	30.87	31.30	31.25
1967	31.46	31.31	31.27	31.54	31.52	31.31	31.03	31.17	31.05	30.66	30.64	30.96	31.15
1968	31.21	31.01	31.22	31.31	31.40	31.31	31.07	31.20	31.21	30.99	30.85	31.11	31.15
1969	31.22	31.40	31.53	31.42	31.40	31.12	31.25	30.90	30.73	30.99	31.02	30.59	31.13
1970	****	****	****	****	****	****	****	****	****	****	****	****	****
GRAND MEAN	31.30	31.27	31.38	31.48	31.49	31.40	31.35	31.35	31.40	31.28	30.88	31.10	31.31
NO. OF ENTRIES	9	9	9	10	10	10	9	10	9	10	10	10	9
STANDARD DEV.	0.21	0.20	0.20	0.17	0.27	0.24	0.30	0.38	0.46	0.33	0.22	0.24	0.19

NO. OF ENTRIES FOR 30 YEAR PERIOD IS LESS THAN 15

**** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

MCINNES ISLAND MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1954	****	****	****	****	****	****	****	54.5	55.4	50.3	48.7	46.4	****
1955	44.9	44.4	43.3	44.5	47.6	50.6	54.6	55.8	54.1	49.8	44.3	42.9	48.1
1956	42.3	41.8	41.7	44.1	48.5	51.8	53.5	55.8	54.9	49.8	46.0	44.4	47.8
1957	40.4	41.2	42.6	44.7	48.5	52.8	55.2	58.1	56.7	50.2	47.6	46.2	48.6
1958	44.9	45.1	45.6	48.3	51.0	54.3	54.6	57.5	55.2	51.0	46.8	45.8	50.0
1959	44.0	43.7	44.8	46.2	49.0	52.8	56.5	55.6	54.7	50.6	46.6	45.3	49.1
1960	43.5	43.6	43.4	45.7	49.8	51.8	54.5	55.3	54.5	51.0	47.6	46.1	48.9
1961	45.2	45.2	45.1	47.2	50.6	54.0	55.6	56.9	55.6	50.8	46.1	44.2	49.7
1962	42.9	42.9	42.5	44.8	47.8	51.6	53.8	56.0	54.9	51.2	49.7	46.6	48.7
1963	45.2	45.7	45.6	46.3	50.1	52.9	56.0	56.9	57.3	53.6	49.4	46.9	50.5
1964	46.2	45.8	45.2	46.0	48.0	53.7	55.9	57.4	54.4	50.9	46.3	44.6	49.5
1965	42.4	42.3	43.1	45.2	47.9	51.0	54.6	55.4	52.4	49.6	46.8	45.8	48.0
1966	43.7	44.3	44.5	45.8	48.1	52.2	55.1	56.2	54.7	50.8	46.8	45.3	48.9
1967	44.1	44.3	43.6	45.8	49.8	53.0	55.9	58.3	57.4	52.8	48.9	45.6	49.9
1968	43.4	42.8	44.9	45.7	49.7	54.7	57.0	56.3	55.6	51.0	47.6	44.7	49.4
1969	41.4	41.2	43.3	44.8	48.4	54.7	55.3	54.8	53.8	51.9	49.1	46.1	48.7
1970	44.6	44.0	45.4	46.1	48.3	51.7	54.2	55.4	53.8	50.5	46.3	43.8	48.7
GRAND MEAN	43.6	43.7	44.0	45.7	48.9	52.7	55.1	56.2	55.0	50.9	47.3	45.3	49.0
NO. OF ENTRIES	16	16	16	16	16	16	16	17	17	17	17	17	16
STANDARD DEV.	1.5	1.5	1.2	1.0	1.0	1.3	0.9	1.1	1.2	1.0	1.4	1.0	0.7
30 YEAR MEAN	43.6	43.7	44.0	45.7	48.9	52.7	55.1	56.2	55.0	50.9	47.3	45.3	49.0
NO. OF ENTRIES	16	16	16	16	16	16	16	17	17	17	17	17	16
STANDARD DEV.	1.5	1.5	1.2	1.0	1.0	1.3	0.9	1.1	1.2	1.0	1.4	1.0	0.7

**** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

MCINNES ISLAND

MEAN SEAWATER SALINITIES IN PARTS PER THOUSAND

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1954	*****	*****	*****	*****	*****	*****	*****	29.50	29.52	29.29	29.36	29.14	*****
1955	29.69	31.14	31.15	31.15	31.32	31.07	30.60	29.98	30.34	30.58	30.21	30.96	30.59
1956	31.55	31.54	31.50	31.20	31.06	30.54	30.40	30.75	30.68	28.96	28.98	30.26	30.61
1957	29.75	31.23	31.71	31.12	30.78	30.63	28.99	29.69	30.15	31.16	30.01	29.94	30.43
1958	29.31	30.23	30.61	30.79	31.04	31.07	31.31	30.50	30.27	29.08	29.81	30.74	30.39
1959	30.25	30.53	30.90	30.72	30.40	29.96	30.33	30.56	29.73	30.67	30.24	30.54	30.40
1960	30.23	30.95	31.12	30.32	30.62	30.54	30.28	30.45	29.13	29.54	29.04	30.30	30.20
1961	30.33	30.52	30.31	30.08	30.58	30.85	30.82	31.13	29.49	30.28	29.87	31.12	30.44
1962	30.48	29.55	31.29	31.55	31.20	31.02	31.08	30.02	30.54	29.73	29.19	29.00	30.41
1963	29.42	30.24	30.45	30.80	31.08	31.23	30.56	31.04	30.59	29.34	29.58	29.74	30.30
1964	30.17	30.03	30.43	30.80	31.24	30.30	29.10	29.52	30.11	28.71	28.45	30.89	29.98
1965	31.11	30.52	29.98	31.23	31.16	31.43	31.39	31.21	31.22	30.12	28.16	30.44	30.66
1966	30.83	30.80	30.86	30.21	30.46	29.30	29.37	29.63	29.72	30.04	29.35	30.54	30.09
1967	30.16	30.35	30.36	30.90	30.27	30.26	29.35	29.57	29.15	28.65	28.70	29.81	29.79
1968	30.10	29.84	29.65	*****	29.78	30.50	29.39	30.59	30.06	29.53	28.70	29.59	29.79
1969	30.69	31.30	31.28	30.81	30.59	29.79	29.98	28.71	29.13	29.13	*****	*****	30.13
1970	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
GRAND MEAN	30.27	30.53	30.77	30.83	30.77	30.56	30.19	30.17	29.98	29.67	29.30	30.20	30.28
NO. OF ENTRIES	15	15	15	14	15	15	15	16	16	16	15	15	15
STANDARD DEV.	0.60	0.56	0.58	0.41	0.43	0.58	0.79	0.71	0.61	0.73	0.64	0.64	0.27
30 YEAR MEAN	30.27	30.53	30.77	30.83	30.77	30.56	30.19	30.17	29.98	29.67	29.30	30.20	30.28
NO. OF ENTRIES	15	15	15	14	15	15	15	16	16	16	15	15	15
STANDARD DEV.	0.60	0.56	0.58	0.41	0.43	0.58	0.79	0.71	0.61	0.73	0.64	0.64	0.27

***** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

IVORY ISLAND MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1937	****	****	****	****	****	****	****	57.6	55.5	54.8	49.3	47.6	****
1938	47.2	44.3	47.0	50.0	54.6	57.3	60.4	59.4	57.2	53.3	46.1	44.5	51.7
1939	44.3	41.5	43.6	46.1	51.6	56.0	59.0	58.9	56.6	52.1	48.9	47.7	50.5
1940	44.3	45.3	45.8	49.0	52.8	56.6	58.0	59.6	58.5	52.8	47.5	46.4	51.3
1941	45.5	44.5	46.7	49.3	52.7	56.3	59.6	59.3	56.8	52.2	48.8	45.6	51.5
1942	45.7	45.5	45.1	48.2	51.9	55.9	60.0	58.7	55.3	52.0	46.8	44.7	50.8
1943	42.5	42.7	44.0	46.6	50.7	54.2	57.2	58.2	57.0	52.2	49.0	46.9	50.1
1944	46.1	44.3	45.0	47.3	50.7	54.7	58.3	58.2	55.8	52.3	48.9	46.6	50.7
1945	45.3	45.3	45.2	46.4	51.4	54.5	57.3	57.7	54.6	51.7	45.3	43.2	49.8
1946	42.9	42.4	42.5	45.4	51.2	55.4	57.8	57.9	55.3	51.1	46.1	42.1	49.2
1947	40.9	41.0	43.5	46.5	51.0	55.5	58.0	57.7	56.9	52.1	47.7	46.1	49.7
1948	43.7	43.0	44.1	46.2	51.0	56.3	57.2	57.6	55.1	51.0	47.1	43.4	49.6
1949	41.5	41.2	43.1	44.8	50.2	53.7	55.9	58.2	56.5	51.2	48.5	43.3	49.0
1950	41.1	40.2	41.0	43.2	47.1	54.2	57.4	58.6	57.2	51.2	46.0	44.7	48.4
1951	42.4	42.4	42.2	45.3	50.4	55.6	58.6	57.8	54.3	50.5	46.5	44.0	49.2
1952	42.6	41.8	42.6	43.8	49.6	52.5	55.7	56.8	55.1	53.0	48.1	45.9	48.9
1953	43.6	43.4	43.7	46.2	50.7	54.4	57.9	58.6	56.5	51.4	48.2	46.4	50.0
1954	44.6	43.6	43.2	****	49.7	53.7	57.3	57.2	57.2	51.0	49.2	46.0	50.2
1955	45.3	44.8	44.0	44.9	48.1	53.5	57.6	57.5	56.2	50.6	43.4	41.9	48.9
GRAND MEAN	43.9	43.2	44.0	46.4	50.8	55.0	57.9	58.1	56.1	51.8	47.4	45.1	50.0
NU. OF ENTRIES	18	18	18	17	18	18	18	19	19	19	19	19	18
STANDARD DEV.	1.3	1.5	1.5	1.9	1.6	1.3	1.2	0.7	1.0	1.0	1.5	1.7	1.0
30 YEAR MEAN	43.6	43.1	43.7	46.0	50.4	54.7	57.7	57.9	55.9	51.6	47.3	44.7	49.7
NU. OF ENTRIES	15	15	15	14	15	15	15	15	15	15	15	15	15
STANDARD DEV.	1.7	1.8	1.3	1.7	1.4	1.1	1.1	0.6	0.9	0.7	1.6	1.6	0.8

**** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

MEAN SEAWATER SALINITIES IN PARTS PER THOUSAND

IVORY ISLAND

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1937	*****	*****	*****	*****	*****	*****	*****	25.22	26.57	28.59	28.85	29.20	*****
1938	28.81	31.01	30.21	28.90	29.13	28.58	26.42	27.73	28.44	28.06	27.17	28.23	28.64
1939	27.26	28.91	29.17	28.70	27.61	25.64	25.68	26.72	27.27	27.72	28.11	26.41	27.27
1940	28.80	29.78	28.40	28.44	28.38	28.45	27.81	24.88	26.70	28.20	28.70	28.36	28.10
1941	29.50	26.34	29.31	29.76	29.37	28.59	29.61	27.96	26.35	25.52	27.09	27.63	28.25
1942	30.26	30.2	29.99	29.48	29.10	28.72	27.68	28.73	29.80	28.65	28.93	28.92	28.21
1943	29.42	30.13	30.61	29.66	28.85	29.09	26.36	26.97	27.23	28.43	29.43	29.35	28.79
1944	30.07	29.92	30.33	29.57	30.00	30.03	26.93	25.37	26.10	24.90	29.06	29.63	28.49
1945	30.14	30.43	30.57	30.25	30.00	27.17	26.83	27.21	28.37	28.87	29.02	29.49	29.05
1946	29.07	29.33	29.00	28.71	28.60	26.93	25.33	26.55	28.49	27.00	28.79	29.11	28.07
1947	29.57	28.53	29.39	28.76	27.39	27.30	24.32	28.52	28.02	27.44	26.34	29.11	27.89
1948	28.62	30.30	30.37	30.82	30.31	27.77	27.15	25.89	24.97	27.51	28.92	29.14	28.48
1949	29.46	31.23	31.12	27.80	27.04	26.73	26.89	24.32	28.90	27.45	27.19	28.05	27.99
1950	31.41	30.87	30.29	29.62	28.88	25.52	25.87	26.77	26.66	27.11	27.91	29.53	28.36
1951	29.59	30.00	30.74	30.51	28.74	26.56	25.14	27.72	29.72	30.74	29.51	29.66	29.05
1952	31.22	29.62	30.16	26.78	28.39	26.42	25.70	26.61	27.04	26.69	28.37	29.45	28.03
1953	30.43	29.16	28.90	28.98	28.90	28.05	26.78	26.32	28.10	26.28	27.49	27.82	28.10
1954	29.32	29.53	29.01	*****	30.13	25.30	25.39	24.99	25.63	27.72	27.39	26.91	27.40
1955	28.65	29.00	30.46	29.49	29.45	28.62	26.51	24.41	28.03	29.42	29.01	29.67	28.55
GRAND MEAN	29.53	29.82	29.95	29.18	28.90	27.52	26.41	26.46	27.49	27.69	28.17	28.71	28.32
NO. OF ENTRIES	18	18	18	17	18	18	18	19	19	19	19	19	18
STANDARD DEV.	0.98	0.75	0.73	0.98	0.92	1.34	1.06	1.34	1.32	1.35	1.05	0.97	0.53
30 YEAR MEAN	29.78	29.81	30.06	29.29	29.00	27.51	26.36	26.55	27.56	27.58	28.29	28.89	28.38
NO. OF ENTRIES	15	15	15	14	15	15	15	15	15	15	15	15	15
STANDARD DEV.	0.81	0.72	0.70	1.06	0.94	1.33	1.09	1.37	1.43	1.49	0.98	0.86	0.49

***** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

CAPE ST JAMES MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1934	***	***	***	***	***	***	***	56.2	55.6	49.9	48.1	47.8	***
1935	44.0	45.0	44.8	45.7	47.5	50.0	53.0	55.2	54.5	50.7	46.7	46.0	48.5
1936	47.2	45.0	44.2	44.7	46.8	50.7	53.5	55.6	55.0	51.9	50.0	47.4	49.4
1937	44.5	41.6	44.0	46.1	47.6	50.4	52.2	54.5	55.3	51.1	***	***	***
1938	***	***	***	***	***	***	***	***	***	***	***	***	***
1939	***	***	***	***	***	***	***	***	***	***	***	***	***
1940	***	***	***	***	***	***	***	***	***	***	***	***	***
1941	***	***	***	***	***	***	***	***	***	***	***	***	***
1942	***	***	***	***	***	***	***	***	***	***	***	***	***
1943	45.5	44.5	44.3	45.5	47.4	49.9	51.7	53.9	52.7	50.2	48.3	46.8	48.6
1944	48.8	46.7	45.3	46.8	48.9	51.2	53.8	55.9	55.2	50.3	49.4	49.1	50.1
1945	48.2	47.2	46.1	46.1	48.2	50.2	52.2	53.7	52.7	49.6	46.6	45.7	48.8
1946	45.7	45.2	45.2	45.6	48.6	51.5	53.0	54.1	53.2	49.6	47.1	44.4	48.5
1947	43.6	43.1	44.2	45.7	47.3	49.6	52.0	54.9	52.1	49.6	48.8	47.2	48.2
1948	45.9	44.5	44.2	44.8	47.2	50.9	54.1	55.3	50.9	49.5	47.2	44.9	48.2
1949	43.5	42.3	42.3	44.2	47.3	48.9	51.1	52.1	53.0	49.5	47.2	44.9	47.2
1950	41.7	41.2	43.2	44.0	45.5	48.6	50.8	52.0	51.7	49.5	47.1	46.1	46.7
1951	44.9	44.1	42.7	43.9	46.2	49.8	53.1	54.3	54.1	50.1	***	44.9	46.0
1952	43.0	43.3	44.4	44.8	46.8	48.3	51.9	54.3	52.2	50.3	48.7	46.8	47.8
1953	45.0	45.8	45.1	46.1	48.0	50.0	52.4	54.5	53.6	49.4	***	***	48.9
1954	***	***	***	***	***	***	***	***	***	***	48.5	47.3	***
1955	45.7	45.3	43.4	44.6	47.1	50.0	53.3	52.4	52.2	47.2	44.8	43.2	47.5
1956	43.0	43.0	42.7	44.7	47.7	49.3	52.8	54.9	54.6	48.1	44.9	45.6	47.6
1957	***	42.1	41.0	43.7	47.0	52.1	53.8	54.7	54.7	50.2	46.5	45.4	48.2
1958	45.4	45.4	45.3	45.8	47.7	54.4	57.7	57.3	54.9	50.4	47.3	46.5	49.8
1959	45.5	45.4	45.0	46.9	48.3	50.9	53.2	54.9	52.1	50.9	47.7	45.8	48.8
1960	45.4	45.3	45.0	46.7	47.8	50.4	52.5	54.9	52.6	50.2	47.1	***	48.8
1961	46.9	45.3	45.8	45.7	48.8	50.3	55.4	57.5	54.3	49.9	47.2	45.1	49.7
1962	44.6	44.1	43.2	44.6	46.6	49.1	52.0	53.4	54.1	49.5	49.2	48.1	48.2
1963	45.5	46.5	46.4	46.6	48.6	50.9	54.3	56.9	54.0	52.4	50.5	48.7	50.2
1964	47.4	46.5	45.3	45.3	46.9	49.9	52.5	53.9	53.5	48.9	47.0	44.7	48.4
1965	43.6	44.0	44.3	44.8	46.3	49.5	51.7	55.3	54.5	49.1	48.2	47.7	48.2
1966	45.0	45.8	45.4	46.0	46.7	49.4	53.7	53.6	52.0	50.4	47.6	46.3	48.5
1967	46.1	45.2	44.5	45.2	47.6	51.4	53.7	56.4	52.1	49.8	49.3	46.2	48.9
1968	44.5	43.7	45.1	45.4	48.1	50.0	53.7	57.2	51.7	48.8	48.0	46.2	48.5
1969	43.1	42.7	44.0	45.2	47.9	51.7	53.9	52.7	51.0	50.9	49.0	48.1	48.3
1970	45.6	46.4	46.7	46.5	47.9	50.2	52.3	53.2	52.4	49.8	48.2	46.3	48.8
GRAND MEAN	45.2	44.5	44.4	45.3	47.5	50.3	53.0	54.7	53.3	49.9	47.8	46.4	48.5
NO. OF ENTRIES	29	30	30	29	30	30	30	31	31	31	30	30	29
STANDARD DEV.	1.5	1.5	1.2	0.8	0.8	1.1	1.3	1.5	1.3	1.0	1.3	1.5	0.8
30 YEAR MEAN	45.2	44.6	44.4	45.3	47.5	50.3	53.0	54.5	53.0	49.7	47.8	46.3	48.5
NO. OF ENTRIES	26	27	27	26	27	27	27	27	27	27	27	27	27
STANDARD DEV.	1.7	1.5	1.3	0.8	0.8	1.2	1.4	1.5	1.2	0.9	1.3	1.5	0.8

*** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

CAPE ST JAMES MEAN SEAWATER SALINITIES IN PARTS PER THOUSAND

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1934	****	****	****	****	****	****	****	31.79	31.72	32.01	31.90	32.16	****
1935	31.65	31.97	31.90	31.77	31.87	31.88	31.96	31.80	31.85	32.17	32.30	32.58	31.98
1936	32.34	32.34	32.35	32.50	32.39	32.37	32.20	32.14	32.17	32.38	32.32	32.49	32.33
1937	32.39	32.61	32.82	32.70	32.48	32.48	32.41	32.30	32.16	32.20	32.11	32.26	32.40
1938	****	****	32.25	32.24	32.39	32.35	32.19	32.11	32.32	32.50	32.45	32.48	32.32
1939	****	****	32.32	32.24	32.25	32.09	31.71	31.92	32.13	32.31	32.53	32.42	32.19
1940	32.32	32.29	32.16	32.19	32.09	32.15	31.90	32.20	32.20	32.38	32.48	31.95	32.19
1941	****	****	32.06	32.19	32.20	32.26	32.15	32.07	32.22	32.49	32.42	32.20	32.23
1942	32.26	32.18	32.11	32.24	32.08	31.93	31.91	31.81	32.11	32.51	32.58	32.64	32.19
1943	32.30	32.24	32.29	32.50	32.40	32.36	32.37	32.43	32.36	32.46	32.59	32.49	32.39
1944	32.28	32.35	32.43	32.44	32.40	32.37	32.30	32.30	32.27	32.57	32.45	32.43	32.38
1945	32.42	32.38	32.27	32.27	32.29	32.33	32.37	32.16	32.35	32.55	32.54	32.63	32.37
1946	32.35	32.22	32.03	32.10	32.03	31.92	31.83	31.95	31.94	32.18	32.11	32.50	32.09
1947	32.65	32.41	32.33	32.24	32.15	32.18	32.12	31.99	32.06	32.38	32.26	32.25	32.25
1948	32.28	32.33	32.17	32.22	32.30	32.20	31.85	31.74	32.27	32.29	32.32	32.22	32.18
1949	32.26	32.33	32.41	32.51	32.59	32.46	32.31	32.17	32.05	32.40	32.59	32.38	32.37
1950	32.29	32.42	32.40	32.26	32.26	32.23	32.15	32.07	32.81	31.91	31.86	31.91	32.13
1951	32.33	32.02	31.96	32.02	32.00	31.96	31.76	32.00	32.01	32.39	32.42	32.16	32.08
1952	32.09	32.25	32.06	32.21	32.24	32.17	32.10	31.90	32.19	32.29	32.21	32.21	32.15
1953	32.26	32.24	32.24	31.94	32.00	32.00	32.01	32.00	32.07	32.27	****	****	32.10
1954	****	****	****	****	****	****	****	****	****	****	31.77	31.32	****
1955	31.48	31.42	31.58	31.99	32.00	31.98	32.10	31.69	31.89	31.93	****	32.06	31.85
1956	31.80	31.96	31.97	32.11	32.10	32.39	32.25	32.28	32.07	32.10	32.27	****	32.12
1957	****	32.05	32.30	32.39	32.46	32.30	****	32.06	31.92	32.11	32.42	32.33	32.23
1958	32.38	32.37	32.22	32.02	31.96	32.04	31.88	32.02	32.00	32.14	32.32	32.16	32.12
1959	32.12	32.15	32.12	32.24	32.11	32.13	32.08	31.97	32.20	32.31	32.29	32.46	32.18
1960	32.34	32.25	32.24	32.28	32.26	32.21	32.17	31.87	31.90	32.26	32.24	****	32.18
1961	32.21	32.02	31.85	****	31.95	32.04	31.73	31.83	31.91	32.32	32.35	32.37	32.05
1962	32.42	32.21	32.07	32.30	32.25	32.21	32.20	32.06	32.11	32.39	32.24	31.99	32.20
1963	32.01	31.96	31.93	32.03	32.10	32.11	32.04	31.77	32.01	32.18	32.05	31.97	32.01
1964	31.95	31.84	31.92	31.95	32.12	****	32.29	32.12	31.98	32.35	32.18	32.29	32.08
1965	32.26	32.24	32.02	32.03	32.11	32.12	32.20	32.04	32.00	32.44	32.28	32.24	32.16
1966	32.14	32.21	32.23	32.07	32.17	32.15	31.84	31.90	32.03	32.04	32.13	****	32.08
1967	****	****	****	31.75	31.84	31.91	31.88	31.73	32.01	32.13	31.80	32.17	****
1968	32.04	32.02	32.20	32.16	31.89	32.13	31.89	31.58	32.02	32.20	32.14	31.95	32.01
1969	31.83	31.95	32.09	32.16	32.04	31.94	31.85	****	****	32.02	32.11	32.04	32.00
1970	32.03	32.07	32.05	32.17	32.20	32.10	31.96	31.96	32.01	32.35	32.44	32.43	32.14
GRAND MEAN	32.18	32.17	32.16	32.19	32.17	32.16	32.06	31.99	32.06	32.27	32.27	32.24	32.17
NO. OF ENTRIES	30	31	34	34	35	34	34	35	35	36	35	33	34
STANDARD DEV.	0.25	0.22	0.22	0.19	0.18	0.17	0.20	0.18	0.16	0.18	0.22	0.26	0.13
30 YEAR MEAN	32.17	32.15	32.13	32.17	32.15	32.14	32.06	31.98	32.06	32.27	32.26	32.22	32.15
NO. OF ENTRIES	26	27	28	28	29	28	28	28	28	29	28	26	28
STANDARD DEV.	0.26	0.21	0.19	0.17	0.17	0.15	0.18	0.18	0.14	0.18	0.22	0.27	0.12

**** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

PINE ISLAND

MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1937	43.3	43.5	45.1	45.9	47.5	48.7	49.0	49.9	49.6	48.5	49.1	48.0	47.5
1938	46.1	44.6	44.7	44.2	45.5	47.2	48.2	48.9	47.5	46.5	44.3	45.9	46.1
1939	46.3	44.6	44.7	45.0	46.5	48.3	49.3	49.2	48.3	47.3	47.4	47.7	47.0
1940	45.8	47.1	47.3	48.4	49.2	49.9	50.4	49.8	49.9	51.6	50.1	47.7	49.0
1941	47.4	47.5	48.1	49.1	49.6	50.4	50.9	51.1	50.8	50.4	50.0	48.2	49.4
1942	45.6	47.5	46.5	47.4	48.7	49.9	50.9	50.4	49.6	50.5	47.7	46.5	48.4
1943	45.1	44.5	44.7	46.5	47.6	48.8	49.8	50.2	49.9	49.7	48.7	46.8	47.6
1944	45.2	45.6	45.5	46.5	47.7	49.2	50.8	50.4	49.2	50.2	49.8	47.2	48.1
1945	46.6	46.2	45.9	46.1	47.6	48.9	49.9	49.7	49.1	46.3	45.8	44.9	47.4
1946	44.9	44.5	44.8	45.3	47.4	48.9	49.3	49.5	48.7	47.7	45.7	44.6	46.7
1947	43.8	43.6	44.9	46.2	47.2	49.3	50.5	50.2	49.4	49.9	47.8	46.8	47.4
1948	45.9	44.7	44.6	45.7	47.8	49.4	50.1	50.0	50.2	49.1	47.2	44.8	47.4
1949	43.5	42.8	43.9	45.2	47.2	48.5	49.4	49.7	49.4	48.6	49.2	46.4	46.9
1950	43.1	42.5	43.3	44.1	45.1	47.5	49.5	49.1	49.1	48.4	47.4	46.7	46.3
1951	45.1	44.8	44.1	45.1	46.7	48.1	49.6	49.7	49.2	49.3	47.7	45.7	47.0
1952	44.3	44.1	44.5	44.8	46.5	47.5	48.7	48.9	48.6	48.7	48.8	46.5	46.8
1953	45.6	45.7	45.1	45.7	47.3	48.4	49.8	49.4	48.6	48.7	49.2	47.3	47.3
1954	45.7	45.1	44.9	45.5	47.0	47.8	48.6	49.5	49.9	49.5	49.4	47.6	47.5
1955	46.0	45.3	44.5	44.9	46.2	47.6	48.8	48.9	48.3	48.6	45.6	44.2	46.5
1956	43.9	43.0	42.3	44.3	46.2	47.3	48.9	48.9	48.0	48.7	47.0	45.4	46.1
1957	44.0	43.3	43.6	45.0	47.3	48.2	49.4	51.5	50.3	49.5	48.0	48.0	47.4
1958	45.5	46.3	47.1	47.9	48.9	50.5	50.8	51.1	50.7	49.3	48.0	47.0	48.7
1959	45.5	45.4	45.6	46.5	47.7	49.3	50.0	49.9	49.6	48.9	47.2	46.1	47.5
1960	44.9	45.1	44.8	45.1	48.2	48.6	49.6	49.4	48.6	48.9	47.8	46.6	47.3
1961	45.4	46.2	46.1	46.9	48.3	50.0	50.5	50.5	49.7	47.7	46.0	44.8	47.7
1962	44.6	44.9	44.4	45.7	47.2	48.4	50.0	49.8	48.9	50.4	49.5	47.6	47.6
1963	45.5	46.3	46.0	47.0	48.9	49.5	50.2	50.8	51.5	53.8	49.9	47.9	49.0
1964	46.9	46.0	45.5	46.2	46.8	49.0	49.8	50.1	49.3	49.0	47.3	44.7	47.5
1965	43.9	44.1	44.3	45.8	47.0	48.7	49.8	50.2	48.9	49.0	48.8	47.7	47.3
1966	45.6	45.3	45.5	46.2	46.9	48.1	49.6	49.7	50.1	49.2	47.1	46.5	47.5
1967	45.7	45.0	44.9	46.0	47.7	49.1	50.3	50.5	51.2	51.6	48.3	46.0	48.0
1968	44.7	44.4	45.6	45.7	47.8	49.3	50.9	50.6	50.6	48.6	47.9	45.6	47.6
1969	43.4	43.0	44.0	45.5	47.0	48.9	49.8	49.1	48.9	48.8	48.5	47.2	47.0
1970	45.7	46.4	46.4	46.3	47.2	48.5	48.7	49.1	48.3	47.9	46.9	44.7	47.1
GRAND MEAN	45.3	44.9	45.1	45.9	47.3	48.7	49.7	49.8	49.4	49.2	47.9	46.4	47.5
NO. OF ENTRIES	34	34	34	34	34	34	34	34	33	33	34	34	34
STANDARD DEV.	1.1	1.3	1.1	1.1	0.9	0.8	0.7	0.6	0.9	1.3	1.4	1.1	0.7
30 YEAR MEAN	45.2	44.9	45.0	45.9	47.4	48.7	49.8	49.9	49.5	49.3	47.9	46.3	47.5
NO. OF ENTRIES	30	30	30	30	30	30	30	30	29	29	30	30	30
STANDARD DEV.	1.1	1.3	1.1	1.1	0.9	0.8	0.6	0.7	0.8	1.2	1.2	1.1	0.7

*** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

MEAN SEAWATER SALINITIES IN PARTS PER THOUSAND

PINE ISLAND

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1937	32.13	32.22	32.02	31.73	31.79	31.64	31.95	31.76	32.07	32.02	31.65	31.36	31.86
1938	31.31	31.39	31.30	31.22	31.75	32.11	32.11	32.09	31.92	32.20	32.02	31.60	31.75
1939	31.54	31.67	32.00	31.95	32.07	32.13	31.95	31.96	32.10	32.26	31.38	*****	31.91
1940	31.08	31.32	31.45	31.50	31.67	31.87	31.89	31.99	32.12	32.01	31.47	31.46	31.65
1941	31.29	31.09	31.39	31.60	31.81	31.89	32.07	32.05	32.06	32.06	31.63	31.14	31.67
1942	31.35	31.33	31.58	31.86	31.80	31.67	31.60	31.95	32.23	32.27	32.07	31.84	31.79
1943	31.67	31.81	31.80	31.72	31.78	32.20	32.13	32.02	32.04	32.01	31.88	31.82	31.90
1944	31.75	31.66	32.06	32.20	32.30	32.37	32.24	32.06	32.24	32.08	31.95	31.70	32.05
1945	31.59	31.56	31.83	31.84	32.10	32.12	31.85	32.13	32.29	32.39	32.16	31.77	31.96
1946	31.37	31.45	31.34	31.48	31.61	31.62	31.64	31.69	31.87	32.04	32.04	31.91	31.67
1947	31.71	31.57	31.66	31.70	31.78	31.84	31.66	31.79	32.09	32.02	31.54	31.64	31.74
1948	31.28	31.39	31.61	31.87	31.69	31.55	31.56	31.82	31.66	31.66	31.52	31.54	31.59
1949	31.63	31.81	31.72	31.58	31.63	31.90	31.81	31.67	31.99	32.15	32.06	31.58	31.79
1950	31.84	31.50	31.29	31.26	31.50	31.63	31.46	31.58	31.84	31.76	31.28	30.92	31.50
1951	30.76	30.98	31.48	31.82	31.95	32.03	31.89	32.03	32.23	32.20	32.05	31.66	31.75
1952	31.62	31.36	31.43	31.51	31.60	31.69	31.70	31.82	31.99	32.04	32.00	31.82	31.71
1953	31.41	31.09	31.39	31.71	31.78	31.65	31.63	31.69	*****	*****	31.27	30.93	31.45
1954	30.92	30.92	31.02	31.60	31.87	31.97	31.71	31.61	31.54	31.69	31.33	30.77	31.41
1955	30.95	31.26	31.81	32.11	32.29	32.22	32.01	31.88	31.99	31.99	31.85	31.65	31.83
1956	31.35	31.25	31.47	31.69	31.85	31.75	31.79	31.88	32.05	31.90	31.51	31.36	31.65
1957	31.39	31.75	31.84	31.65	31.87	31.69	32.06	32.07	31.80	31.95	31.89	31.49	31.78
1958	31.21	31.07	31.11	31.24	31.64	31.70	31.64	31.60	31.60	31.67	31.61	31.38	31.45
1959	31.20	31.27	31.31	31.53	31.66	31.70	31.73	31.73	31.95	32.18	32.06	31.69	31.66
1960	31.42	31.50	31.57	31.55	31.44	31.48	31.59	31.65	31.90	31.92	31.53	31.54	31.59
1961	31.17	31.95	30.79	31.10	31.20	31.57	31.73	31.78	31.89	32.02	32.01	31.90	31.50
1962	31.46	31.41	31.83	31.99	31.95	32.08	32.05	31.92	32.01	31.66	31.45	30.76	31.71
1963	30.07	31.21	31.51	31.62	31.53	31.75	31.65	31.65	31.85	31.69	31.11	30.93	31.45
1964	30.84	31.00	31.47	31.88	32.18	31.92	31.52	31.46	31.71	31.72	31.68	31.67	31.58
1965	31.47	31.27	31.48	31.90	31.95	32.12	32.00	31.98	32.13	31.80	31.41	31.17	31.72
1966	31.01	31.14	31.31	31.28	31.65	31.78	31.75	31.67	31.88	31.88	31.63	31.36	31.52
1967	30.99	30.93	31.27	31.48	31.53	31.53	31.31	31.43	31.46	31.23	31.05	31.18	31.28
1968	31.08	30.96	31.00	31.18	31.49	31.70	31.62	31.65	31.68	31.44	31.07	30.91	31.31
1969	31.06	31.19	31.26	31.22	31.31	31.27	31.21	*****	*****	31.55	31.28	*****	*****
1970	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

GRAND MEAN
NU. OF ENTRIES
STANDARD DEV.

30 YEAR MEAN
NU. OF ENTRIES
STANDARD DEV.

***** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

KAINS ISLAND

MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1935	45.7	45.9	45.6	47.4	49.6	52.9	54.1	54.2	54.6	51.7	46.8	46.8	49.5
1936	45.7	43.9	44.6	46.7	50.5	55.3	59.7	56.9	54.0	52.9	48.4	47.0	50.4
1937	43.9	43.5	45.5	47.3	50.5	52.9	54.5	55.9	54.3	52.4	49.8	48.8	50.0
1938	46.9	45.7	46.9	48.9	50.9	52.5	53.7	54.1	56.9	53.5	48.1	45.4	50.2
1939	44.8	43.2	45.3	45.7	50.3	51.0	55.0	56.4	55.8	51.5	50.9	50.4	50.0
1940	43.6	46.1	46.4	50.6	52.2	55.1	55.3	57.5	57.8	54.5	51.2	49.3	52.4
1941	47.9	48.1	50.1	51.7	52.6	55.8	57.3	57.5	57.0	53.7	51.0	47.9	52.5
1942	47.9	47.7	47.2	48.9	51.5	54.0	56.5	56.7	54.6	53.4	48.4	45.9	50.9
1943	43.8	44.7	45.7	48.0	50.0	52.8	54.6	56.0	55.4	52.8	49.9	48.0	50.1
1944	46.8	46.7	46.8	48.1	50.4	53.0	54.9	55.6	55.5	54.6	50.9	49.6	51.0
1945	49.4	47.6	46.3	47.4	49.4	51.4	53.2	54.1	52.4	51.2	46.6	44.9	49.5
1946	45.3	44.8	45.0	46.3	50.4	53.6	55.7	55.4	54.7	50.9	46.4	44.3	49.4
1947	43.2	43.8	46.1	47.9	50.6	54.0	56.6	55.2	55.1	52.2	49.5	47.8	50.1
1948	45.0	44.0	45.0	47.3	50.0	53.0	54.2	54.8	54.8	51.8	48.1	44.8	49.5
1949	43.4	42.5	44.4	46.5	50.2	51.5	54.1	56.6	55.0	52.1	50.0	46.8	49.4
1950	42.2	42.1	43.9	45.3	47.6	52.1	54.0	55.9	54.4	51.8	48.1	48.8	48.9
1951	46.3	45.1	45.1	47.2	50.9	51.1	54.7	55.1	53.9	53.4	49.6	46.9	49.9
1952	44.7	44.6	45.7	46.4	48.8	50.6	52.0	55.0	54.4	53.4	50.2	47.2	49.4
1953	45.1	46.3	45.4	47.6	50.2	52.2	55.2	54.8	56.5	52.3	50.2	48.7	50.5
1954	40.0	45.7	46.1	47.1	49.7	52.5	53.1	54.3	57.6	52.5	50.9	48.6	50.3
1955	47.5	46.4	44.7	46.2	48.4	50.1	53.4	53.4	53.9	50.7	46.6	43.5	48.7
1956	45.3	43.3	43.8	46.3	49.2	52.2	53.6	55.6	56.4	52.1	48.7	46.3	49.2
1957	44.3	44.0	44.5	46.9	50.8	53.7	55.5	58.6	56.5	53.4	50.5	48.7	50.6
1958	47.8	48.3	48.3	49.5	52.2	55.4	55.5	56.2	55.5	52.2	48.9	47.2	51.4
1959	45.9	45.3	46.3	47.5	50.5	53.0	54.6	53.8	55.3	52.6	48.2	***	50.3
1960	44.9	45.0	45.2	47.4	50.4	51.4	52.5	55.5	54.8	52.1	49.2	47.5	49.7
1961	47.0	47.0	47.1	49.3	51.7	54.5	56.6	56.9	55.6	50.5	47.0	44.9	50.6
1962	44.7	45.3	45.3	47.8	49.5	52.9	54.2	55.2	53.9	52.6	50.8	48.4	50.0
1963	47.4	47.4	46.8	48.6	51.6	53.1	55.5	57.2	59.9	56.2	51.0	49.7	52.0
1964	47.9	47.4	46.9	47.7	48.7	***	54.8	56.0	53.5	51.9	48.3	45.6	49.8
1965	45.7	44.2	45.8	47.1	49.2	51.1	54.3	57.1	52.6	51.3	49.8	48.2	49.5
1966	45.9	47.0	46.3	48.0	49.4	52.1	54.8	54.7	55.9	52.5	48.2	46.6	50.1
1967	45.0	45.8	46.0	47.7	50.9	52.8	55.5	57.3	58.9	54.9	51.0	47.3	51.1
1968	45.3	44.6	46.7	47.2	51.1	53.8	55.6	55.9	55.5	51.1	49.0	46.6	50.2
1969	44.1	43.3	45.5	46.7	50.2	54.4	53.7	54.7	54.2	52.6	50.4	47.8	49.7
1970	45.4	45.0	46.6	47.0	49.0	51.2	52.8	54.0	52.6	49.9	46.8	43.6	48.7
GRAND MEAN	45.8	45.4	46.0	47.5	50.2	52.8	54.7	55.6	55.2	52.4	49.1	47.1	50.1
NO. OF ENTRIES	36	35	36	36	36	35	36	36	36	36	36	35	36
STANDARD DEV.	1.7	1.6	1.2	1.2	1.1	1.4	1.4	1.2	1.6	1.3	1.4	1.7	0.9
30 YEAR MEAN	45.7	45.1	46.0	47.5	50.1	52.7	54.6	55.6	55.2	52.4	49.1	46.9	50.1
NO. OF ENTRIES	30	30	30	30	30	30	30	30	30	30	30	29	30
STANDARD DEV.	1.7	1.6	1.2	1.2	1.1	1.3	1.2	1.2	1.6	1.3	1.4	1.7	0.9

*** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

KAINS ISLAND

MEAN SEAWATER SALINITIES IN PARTS PER THOUSAND

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1935	28.79	27.76	29.10	30.36	31.34	31.44	31.81	32.49	32.39	31.26	31.11	29.99	30.65
1936	30.01	31.14	29.85	30.62	30.78	30.72	29.75	31.42	31.74	31.79	30.39	30.30	30.70
1937	30.86	30.85	30.10	29.52	29.47	31.32	31.49	31.55	31.62	31.08	29.08	29.37	30.52
1938	28.99	29.59	29.92	30.07	31.39	32.24	32.61	32.57	32.15	31.05	29.67	29.27	30.79
1939	29.32	29.72	30.69	30.68	*****	*****	31.73	32.41	31.69	31.21	27.75	26.22	30.04
1940	29.03	28.95	23.67	29.82	30.28	31.76	32.08	31.74	31.67	29.08	29.43	29.15	30.13
1941	28.69	27.76	29.77	30.53	30.86	31.50	31.95	32.47	31.67	30.30	29.66	28.26	30.28
1942	29.94	29.98	29.45	29.76	30.27	31.22	31.97	32.58	32.45	31.29	30.33	28.71	30.66
1943	29.79	29.84	30.40	29.92	30.61	31.65	32.11	32.40	31.89	31.23	30.36	30.31	30.87
1944	29.08	30.24	31.37	31.49	31.87	32.35	32.43	32.39	31.94	29.71	28.66	29.69	30.93
1945	29.70	30.31	30.42	30.46	30.90	31.42	32.19	32.52	32.07	31.71	30.20	29.06	30.91
1946	28.34	28.94	23.52	29.48	30.13	31.04	31.31	32.01	31.86	31.05	30.90	29.20	30.23
1947	29.32	28.74	30.22	30.57	30.56	31.48	31.00	31.83	32.07	29.69	29.27	29.68	30.36
1948	28.86	30.03	30.41	30.59	30.63	31.19	31.89	31.98	30.17	29.51	29.50	29.18	30.33
1949	30.16	30.84	30.26	29.62	29.94	31.41	32.01	31.47	31.78	31.19	30.49	29.31	30.70
1950	31.37	29.58	28.93	28.88	29.95	30.87	31.50	31.69	31.36	30.22	28.42	28.05	30.06
1951	29.25	29.04	30.56	31.25	31.39	31.84	32.53	32.53	32.38	31.81	30.90	29.92	31.11
1952	30.34	28.14	30.27	29.25	29.81	30.89	31.58	32.25	31.87	31.31	30.55	29.36	30.47
1953	29.62	28.11	29.83	30.15	30.57	31.21	31.61	31.75	31.04	29.56	27.50	27.99	29.91
1954	29.50	29.25	29.30	30.45	31.50	31.22	31.10	31.84	31.09	29.86	28.38	27.48	30.08
1955	28.86	29.30	31.24	31.16	31.23	31.68	31.83	31.80	31.69	30.35	30.31	29.65	30.80
1956	29.27	29.78	29.95	29.95	31.02	31.23	31.48	32.16	32.06	30.35	29.34	28.77	30.44
1957	29.66	30.67	30.30	30.07	30.79	31.40	31.04	31.18	31.38	31.65	29.87	28.47	30.53
1958	27.95	28.77	29.20	29.91	31.14	31.96	32.44	32.15	31.20	29.69	29.71	28.59	30.22
1959	28.61	29.73	28.83	30.00	30.27	30.81	31.47	32.07	31.61	31.16	30.62	29.09	30.36
1960	29.65	29.53	30.98	29.19	29.55	30.23	31.74	31.59	31.08	30.20	29.00	29.21	30.08
1961	28.81	27.97	28.13	29.67	30.56	31.00	31.61	32.23	31.41	30.38	30.09	29.58	30.12
** 1963	28.92	28.84	29.77	30.30	29.88	31.26	31.44	31.93	30.94	28.77	27.49	28.55	29.84
** 1962	28.67	29.49	31.06	30.51	30.31	31.45	32.18	31.86	32.21	27.42	28.31	25.25	29.89
1964	28.27	28.45	29.87	30.52	31.28	31.46	31.02	30.96	31.23	29.15	29.42	29.86	30.12
1965	29.50	28.29	30.10	30.81	30.76	32.08	32.47	32.55	32.69	29.10	28.99	28.54	30.48
1966	27.77	28.36	29.30	29.63	30.87	31.35	31.56	31.78	31.42	30.01	29.19	28.26	29.99
1967	27.61	27.34	29.39	29.93	30.07	31.08	31.48	31.72	29.78	27.90	28.63	28.39	29.44
1968	28.41	28.90	28.79	29.30	30.71	31.37	31.40	31.66	30.53	28.59	27.97	28.13	29.64
1969	30.05	29.71	30.03	28.46	29.98	30.60	31.41	31.10	30.94	*****	28.49	28.68	29.94
1970	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
GRAND MEAN	29.19	29.29	29.83	30.03	30.60	31.34	31.69	31.96	31.57	30.25	29.42	28.84	30.33
NO. OF ENTRIES	35	35	35	35	34	34	35	35	35	34	35	35	35
STANDARD DEV.	0.83	0.77	0.76	0.66	0.59	0.45	0.55	0.44	0.63	1.13	1.00	1.04	0.39
30 YEAR MEAN	29.17	29.21	29.85	30.06	30.60	31.31	31.71	31.94	31.51	30.11	29.39	28.80	30.30
NO. OF ENTRIES	29	29	29	29	29	29	29	29	29	28	29	29	29
STANDARD DEV.	0.83	0.82	0.78	0.70	0.56	0.43	0.45	0.43	0.66	1.13	0.99	0.96	0.40

***** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

** N.B. The lines of data for 1962 and 1963 have been reversed.

MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT

NOOTKA

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1934	***	***	***	***	***	***	***	***	58.5	53.1	48.3	45.6	***
1935	41.1	43.2	43.6	48.6	52.5	56.6	59.7	59.8	58.1	52.9	46.9	45.8	50.7
1936	44.3	43.5	44.2	48.6	53.6	59.5	62.9	61.8	58.8	55.2	***	***	53.3
1937	43.3	44.5	46.1	49.3	53.7	55.7	58.9	58.4	56.7	51.5	46.6	45.2	50.9
1938	42.9	42.5	43.7	48.4	52.0	55.9	57.2	58.5	59.7	54.2	47.2	44.6	50.5
1939	***	***	45.5	47.3	52.8	56.4	58.3	59.0	56.4	50.7	47.8	46.6	52.3
1940	44.4	44.5	45.3	50.3	53.6	56.4	60.3	60.7	60.3	54.6	49.5	46.9	52.2
1941	45.3	45.5	49.6	52.9	55.6	58.7	62.0	61.5	59.1	54.2	50.4	46.5	53.6
1942	45.4	45.2	46.4	50.1	54.5	56.8	61.7	61.8	57.5	54.0	46.8	44.7	52.2
1943	43.2	43.3	45.1	48.6	52.7	55.6	58.5	60.1	58.0	53.7	49.6	46.7	51.2
1944	45.2	45.4	46.1	49.7	53.2	55.5	58.4	60.6	59.2	55.0	49.7	47.4	52.1
1945	45.2	45.7	45.9	48.4	53.7	56.8	58.3	60.0	57.0	52.9	46.0	43.3	51.2
1946	43.9	43.3	45.1	47.8	53.7	57.1	58.8	60.7	58.6	50.8	45.5	43.0	50.7
1947	41.6	43.7	46.9	48.9	54.8	58.3	60.2	62.1	58.5	52.4	48.3	45.8	51.7
1948	44.9	44.4	45.2	47.9	52.2	59.4	60.1	59.8	58.2	53.3	47.0	42.5	51.2
1949	41.4	42.5	44.9	47.7	54.4	55.5	58.3	59.7	58.3	52.3	50.0	45.3	50.8
1950	40.0	40.7	43.4	45.8	50.5	57.1	59.5	60.6	57.2	51.7	46.4	46.5	49.9
1951	44.3	43.0	44.1	49.8	54.1	55.9	59.6	59.7	55.9	52.8	48.4	44.5	51.0
1952	43.1	42.3	44.6	46.9	51.1	56.3	59.5	59.6	58.3	55.2	48.2	45.6	50.8
1953	43.5	43.3	46.6	47.8	53.6	55.2	***	***	***	***	***	***	***
GRAND MEAN	43.7	43.5	45.5	48.7	53.2	56.7	59.5	60.2	58.1	53.1	47.9	45.3	51.4
NO. OF ENTRIES	18	13	19	19	19	19	18	18	19	19	18	18	18
STANDARD DEV.	1.8	1.5	1.5	1.4	1.2	1.2	1.4	1.0	1.1	1.3	1.5	1.3	0.9

NO. OF ENTRIES FOR 30 YEAR PERIOD IS LESS THAN 15

***** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

MEAN SEAWATER SALINITY IN PARTS PER THOUSAND

NOOTKA

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1934	****	****	****	****	****	****	****	****	29.71	25.66	20.59	23.92	****
1935	20.37	20.07	23.25	27.66	29.31	26.57	28.58	30.14	28.32	25.91	27.66	22.25	25.83
1936	23.98	23.72	24.60	23.41	25.47	25.83	24.52	29.35	29.44	28.41	****	****	26.37
1937	30.98	28.19	24.22	23.38	21.86	24.19	27.79	27.89	29.16	23.91	21.39	22.84	25.48
1938	23.45	27.03	24.73	24.84	27.13	28.73	30.69	31.58	30.98	26.69	23.43	23.99	26.94
1939	****	****	23.10	26.28	25.72	26.57	26.12	30.87	28.52	26.22	17.80	20.19	25.63
1940	24.97	23.20	21.09	25.31	25.94	30.64	30.82	29.07	27.79	21.94	24.71	20.77	25.52
1941	27.91	23.53	25.76	27.86	24.62	27.50	30.38	30.92	27.09	22.77	23.98	21.09	25.70
1942	26.70	25.41	23.34	25.93	25.23	26.85	28.94	31.10	29.89	24.97	25.27	22.31	26.41
1943	27.45	26.41	27.21	23.47	26.53	28.27	29.17	29.52	29.37	26.17	26.78	24.96	27.10
1944	21.47	28.40	27.26	27.68	28.98	30.55	31.64	31.61	30.62	26.06	21.77	26.94	27.74
1945	24.73	25.07	25.77	26.24	23.78	26.23	28.21	30.53	28.70	28.98	26.59	24.99	26.70
1946	20.96	23.74	21.54	23.61	22.72	24.07	27.25	28.71	28.12	26.73	28.23	21.75	24.78
1947	23.99	22.81	25.19	25.97	25.83	27.19	24.24	29.85	29.75	22.06	25.04	23.46	25.53
1948	25.05	26.42	27.53	27.09	24.34	24.14	29.14	30.14	24.50	23.84	23.70	24.80	25.89
1949	23.03	28.25	23.72	21.85	23.16	28.40	29.50	26.51	27.34	25.72	24.54	25.61	26.05
1950	26.61	24.05	22.85	23.58	24.32	23.49	26.53	29.41	29.16	23.73	20.93	21.91	24.71
1951	25.91	25.13	23.39	27.04	23.30	27.79	30.47	31.19	30.79	25.29	24.94	25.04	27.11
1952	29.06	19.60	27.90	21.01	20.94	23.56	26.76	29.19	28.86	27.83	25.63	23.39	25.31
1953	19.13	20.42	25.59	25.52	22.15	26.17	****	****	****	****	****	****	****
GRAND MEAN	24.77	24.30	25.21	25.14	24.80	26.67	28.37	29.86	28.84	25.41	24.05	23.34	26.03
NO. OF ENTRIES	13	16	19	19	19	19	18	18	19	19	18	18	18
STANDARD DEV.	3.12	2.92	2.71	2.01	2.25	2.14	2.14	1.33	1.51	1.98	2.70	1.84	0.82

NO. OF ENTRIES FOR 30 YEAR PERIOD IS LESS THAN 15

**** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

AMPHITRITE PT.

MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1934	***	***	***	***	***	***	***	***	54.2	50.8	50.2	48.2	***
1935	45.2	45.7	45.3	47.9	49.9	52.9	54.9	54.6	54.9	52.2	46.6	47.1	49.7
1936	46.4	43.9	45.7	47.4	50.8	56.7	57.7	58.2	55.3	53.1	48.4	47.1	50.8
1937	44.4	43.4	46.5	48.5	50.5	53.1	53.9	55.3	53.1	51.8	50.7	48.3	49.9
1938	46.9	44.2	46.3	48.6	50.0	51.6	52.4	53.7	53.9	52.9	49.5	46.7	49.7
1939	46.3	44.1	***	***	***	***	***	56.7	54.2	51.6	51.0	50.1	***
1940	47.7	47.6	48.6	51.9	53.1	53.5	54.4	55.9	55.4	54.4	51.7	48.5	51.8
1941	47.2	48.3	49.9	52.1	54.4	55.5	57.4	55.6	56.3	53.9	51.6	49.4	52.6
1942	45.7	46.5	45.4	49.2	52.0	53.8	57.4	57.6	56.0	52.7	48.9	46.4	51.1
1943	43.9	44.5	45.4	49.2	50.0	52.3	54.3	55.4	55.4	52.9	50.4	48.5	50.2
1944	47.1	45.9	46.6	48.9	51.2	51.3	53.6	56.2	55.0	53.7	52.6	49.1	50.9
1945	45.2	47.7	47.7	49.4	52.6	51.6	53.5	54.6	53.4	51.1	47.1	45.7	50.1
1946	46.3	45.1	48.5	47.9	50.7	54.7	54.8	55.2	53.8	50.7	46.8	45.0	49.8
1947	43.7	44.2	46.6	48.7	50.5	54.3	56.0	57.7	54.6	52.4	50.5	47.2	50.5
1948	45.6	44.5	45.5	46.6	50.2	52.9	55.1	56.0	55.4	51.7	47.3	44.1	49.5
1949	41.3	41.3	44.7	47.5	51.6	51.1	53.5	55.7	53.8	50.1	49.6	47.3	48.9
1950	41.4	42.5	44.3	46.7	47.8	52.4	52.5	53.7	53.5	51.8	49.6	48.2	48.7
1951	46.7	45.1	44.7	48.5	49.9	51.9	***	56.1	54.0	52.7	49.7	47.1	49.5
1952	44.5	45.2	46.2	47.6	50.8	52.4	53.9	55.6	54.6	52.7	48.6	46.7	49.8
1953	46.7	47.1	47.4	48.5	52.2	52.5	53.4	55.2	55.8	53.5	51.5	49.3	51.1
1954	43.0	46.0	46.4	47.2	49.3	52.2	54.3	55.2	54.7	52.4	52.2	49.8	50.6
1955	47.1	45.7	45.3	46.4	47.9	50.8	52.8	53.3	53.2	51.4	47.5	45.3	48.8
1956	44.6	***	***	47.0	47.9	50.0	54.2	54.8	53.7	52.0	49.1	46.2	49.9
1957	43.3	43.3	45.2	48.0	51.0	52.7	55.1	56.9	57.4	54.0	52.0	49.2	50.6
1958	47.8	49.5	48.8	50.8	53.9	56.7	58.6	58.9	56.0	52.3	49.9	48.0	52.4
1959	46.6	48.2	47.2	49.2	51.3	53.8	54.1	55.3	55.4	52.3	48.4	46.9	50.5
1960	44.9	46.2	45.9	49.4	51.8	51.5	52.2	56.0	56.2	53.0	52.0	48.7	50.6
1961	47.5	48.0	48.2	49.1	52.2	53.3	57.4	56.7	54.9	50.7	47.1	45.0	50.8
1962	44.8	46.1	45.7	49.0	51.1	51.9	52.2	55.6	55.5	54.9	53.6	50.6	50.9
1963	45.6	47.3	47.4	50.2	53.5	52.4	56.3	57.6	57.8	56.0	52.4	49.9	52.3
1964	***	47.7	47.6	48.0	48.5	52.4	54.8	55.7	54.9	52.3	48.1	46.0	50.5
1965	44.9	45.2	48.8	47.7	49.8	52.0	53.1	55.3	54.9	52.8	51.9	49.7	50.3
1966	***	47.3	46.6	49.2	50.0	53.1	54.1	54.0	54.3	52.3	49.8	48.6	50.8
1967	47.1	47.1	46.2	48.4	50.1	53.4	54.9	55.7	56.0	54.7	52.3	47.7	51.1
1968	45.4	45.4	47.7	48.4	51.1	53.1	54.4	55.3	54.7	51.4	50.7	47.3	50.4
1969	43.9	43.5	45.3	48.8	52.6	55.1	54.1	55.2	53.9	53.6	51.0	48.9	50.5
1970	47.0	47.9	48.4	49.1	50.4	52.2	54.4	54.5	54.2	51.0	49.3	46.2	50.3
GRAND MEAN	45.7	45.7	46.5	48.5	50.8	52.8	54.6	55.7	54.8	52.5	49.9	47.6	50.4
NO. OF ENTRIES	34	35	34	35	35	35	34	36	37	37	37	37	35
STANDARD DEV.	1.7	1.7	1.2	1.2	1.6	1.5	1.6	1.2	1.0	1.2	1.8	1.6	0.9
30 YEAR MEAN	45.6	45.9	46.6	48.5	50.8	52.7	54.5	55.6	54.9	52.5	50.0	47.5	50.5
NO. OF ENTRIES	28	29	29	30	30	30	29	30	30	30	30	30	30
STANDARD DEV.	1.8	1.7	1.2	1.2	1.6	1.4	1.6	1.1	1.1	1.3	1.9	1.7	0.9

*** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

MEAN SEAWATER SALINITIES IN PARTS PER THOUSAND

AMPHITRITE PT.

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1934	*****	*****	*****	*****	*****	*****	*****	*****	30.97	30.93	28.24	29.13	*****
1935	27.21	27.53	28.30	29.51	31.48	31.03	30.82	31.21	30.68	30.36	30.42	29.47	29.83
1936	28.61	30.23	29.68	30.52	30.57	29.99	29.26	31.17	30.70	30.84	31.26	29.65	30.14
1937	30.55	30.47	28.96	29.39	30.00	30.02	31.28	30.68	31.22	29.35	28.26	28.73	29.90
1938	28.68	28.57	29.07	28.48	31.26	31.92	31.75	31.79	31.78	30.74	30.39	29.49	30.32
1939	27.87	28.42	*****	*****	*****	*****	*****	31.09	31.02	30.44	26.95	28.72	*****
1940	28.80	28.24	27.74	29.62	29.89	31.66	31.37	31.44	30.73	28.59	28.26	28.83	29.61
1941	23.63	28.52	28.77	30.53	29.04	30.81	31.42	31.73	30.19	28.42	28.89	28.01	29.57
1942	28.38	29.04	29.43	29.74	30.33	30.66	30.24	31.43	31.41	29.70	29.68	27.56	29.79
1943	29.44	29.09	29.52	27.31	30.53	31.34	31.61	31.06	30.84	30.00	29.88	29.40	30.00
1944	29.19	29.95	30.37	29.96	31.11	32.34	32.35	32.12	31.26	30.40	27.60	28.95	30.46
1945	29.14	29.51	29.89	30.20	29.64	31.59	31.53	31.86	30.71	30.29	29.15	28.57	30.17
1946	27.83	28.53	28.11	28.20	30.44	29.44	30.13	30.94	30.94	30.26	30.44	28.01	29.44
1947	28.53	28.16	29.08	29.43	30.44	31.61	29.32	31.08	31.21	29.05	30.11	28.02	29.75
1948	28.18	28.11	29.48	29.39	28.76	30.51	30.43	30.44	28.23	29.02	29.32	28.53	29.19
1949	29.89	30.27	28.54	29.12	29.14	31.32	31.60	30.20	31.07	30.21	29.48	28.86	29.97
1950	29.39	26.99	26.67	28.00	30.07	30.09	30.39	29.62	30.95	29.01	27.24	27.15	28.79
1951	28.07	27.14	29.46	30.64	31.03	31.08	*****	31.78	31.53	30.27	29.57	29.59	30.01
1952	29.97	27.33	30.09	30.47	30.47	30.54	31.29	31.24	31.35	30.98	29.90	28.78	30.20
1953	28.08	27.97	30.37	30.41	29.52	31.16	31.17	30.41	30.72	29.02	28.61	28.54	29.66
1954	29.17	28.43	28.10	30.11	31.75	30.84	29.60	30.05	30.23	29.86	27.79	26.58	29.37
1955	29.19	29.57	31.17	29.19	31.00	30.69	31.00	30.78	30.86	29.81	28.55	28.64	30.03
1956	27.88	*****	*****	29.82	30.54	28.60	30.30	31.03	30.96	28.23	27.79	28.17	29.33
1957	28.97	30.02	27.83	29.26	30.32	30.69	29.92	30.35	29.73	30.87	29.80	28.50	29.68
1958	27.25	27.82	27.79	28.85	30.87	31.14	31.21	31.23	29.86	29.26	28.55	27.04	29.23
1959	28.50	28.58	28.60	29.18	30.09	30.09	31.20	31.32	30.14	30.14	29.89	28.09	29.65
1960	29.23	28.41	29.74	27.11	28.23	30.61	31.57	30.73	30.21	29.21	28.63	28.25	29.32
1961	27.81	26.62	27.89	29.16	29.26	30.83	30.68	31.38	30.72	29.90	29.66	27.16	29.25
1962	27.52	28.75	30.59	29.85	29.82	31.32	31.96	30.00	30.97	28.47	28.27	28.14	29.63
1963	29.08	28.48	29.14	28.59	30.39	31.62	30.59	31.26	31.04	29.19	27.77	27.12	29.52
1964	*****	30.74	30.68	31.15	30.33	30.62	28.32	29.96	30.06	29.52	29.70	29.65	30.06
1965	27.56	28.02	29.57	30.72	30.99	31.79	32.05	31.56	31.41	26.52	27.96	28.38	29.71
1966	*****	29.04	27.98	29.45	31.51	30.39	31.06	31.19	30.50	29.27	29.23	26.50	29.64
1967	27.02	28.14	28.07	28.90	30.68	30.94	31.24	31.40	30.66	27.46	28.40	29.60	29.37
1968	27.44	28.47	26.94	29.87	30.57	30.55	30.67	30.07	29.21	28.51	28.32	27.88	29.04
1969	28.40	28.18	28.73	27.82	29.62	30.23	31.20	31.24	28.95	28.85	27.79	29.27	29.18
1970	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
GRAND MEAN	28.53	28.62	28.98	29.41	30.28	30.80	30.86	31.00	30.63	29.52	28.93	28.44	29.67
NO. OF ENTRIES	33	34	33	34	34	34	33	25	36	36	36	36	34
STANDARD DEV.	0.85	1.00	1.03	0.97	0.80	0.77	0.88	0.62	0.74	1.00	1.03	0.88	0.39
30 YEAR MEAN	28.51	28.56	29.02	29.39	30.22	30.80	30.85	30.94	30.54	29.36	28.89	28.27	29.62
NO. OF ENTRIES	27	28	23	29	29	29	28	29	29	29	29	29	29
STANDARD DEV.	0.81	0.98	1.14	1.01	0.81	0.73	0.88	0.65	0.78	0.98	0.89	0.88	0.38

***** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

MONTHLY MEAN SALINITIES⁰/00

1968	--	--	--	--	31.39	31.13	31.14	31.37	31.31	31.01	30.61
1969	30.58	30.82	30.96	30.88	31.23	31.26	31.38	--	31.34	31.46	30.91
1970	30.85	30.29	31.00	--	Salinity sampling terminated						

MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT

RACE ROCKS

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1941	****	****	****	****	53.1	51.0	52.3	51.9	51.2	50.1	48.7	47.8	****
1942	46.7	46.5	46.5	47.7	49.6	50.2	51.5	52.2	51.1	49.6	47.6	46.6	48.8
1943	44.8	44.5	45.3	47.3	49.4	50.3	51.0	51.7	51.2	49.8	48.6	47.1	48.3
1944	46.2	45.9	46.2	46.9	49.0	****	52.0	51.6	51.2	49.9	49.0	47.1	48.6
1945	45.4	45.3	46.2	46.8	48.5	50.0	50.7	51.4	50.5	49.4	47.1	46.9	48.4
1946	45.4	45.8	46.2	46.7	49.0	50.5	51.4	51.4	51.0	49.1	46.7	45.9	48.3
1947	44.8	44.7	45.9	47.3	49.1	50.9	51.2	51.8	51.0	49.8	48.4	46.3	48.4
1948	45.6	44.5	44.5	46.2	48.2	50.5	51.5	51.3	50.8	49.2	46.8	44.7	47.8
1949	43.1	43.0	44.5	46.9	49.0	50.3	50.7	50.5	51.0	49.2	47.8	46.2	47.6
1950	43.2	42.5	44.0	47.7	49.1	50.5	50.8	50.8	51.7	49.2	47.4	46.0	48.0
1951	45.6	44.5	44.1	46.6	48.7	50.5	50.8	52.0	51.7	49.7	47.7	46.3	47.9
1952	44.5	44.0	45.7	46.9	48.2	49.4	50.9	51.0	50.4	49.7	48.9	47.4	48.6
1953	40.1	46.3	45.6	46.7	48.8	49.7	51.1	51.9	51.1	49.9	48.5	47.2	47.7
1954	44.9	45.2	45.6	46.3	47.8	48.8	49.9	50.2	50.1	49.0	48.5	47.2	47.7
1955	45.6	44.5	44.2	45.5	47.2	48.9	49.7	50.5	50.0	48.2	45.6	44.0	47.0
1956	44.1	43.5	43.4	45.9	47.8	49.4	50.4	50.9	50.3	48.6	46.6	44.8	47.1
1957	43.5	43.2	45.0	47.8	48.9	50.2	50.6	50.9	51.1	49.7	48.0	47.0	47.3
1958	43.6	47.1	47.6	48.6	49.9	51.4	52.8	52.8	51.9	49.9	47.8	46.7	49.5
1959	45.7	45.4	46.3	48.4	49.6	50.9	52.4	52.0	50.9	49.5	47.1	46.1	48.6
1960	44.9	45.3	45.5	47.5	49.4	50.6	52.6	51.4	50.2	49.1	47.6	46.4	48.3
1961	46.4	46.8	47.1	47.9	48.9	50.7	51.8	52.4	51.2	49.0	46.9	45.5	48.7
1962	45.0	45.2	45.3	47.1	48.8	50.1	50.8	50.9	51.1	50.1	48.9	47.8	48.4
1963	45.6	45.6	46.2	47.3	49.4	50.4	50.9	51.5	51.1	50.6	49.9	47.8	48.8
1964	46.9	46.4	46.0	46.8	47.9	49.4	50.5	50.9	50.1	48.9	47.0	45.4	48.0
1965	44.5	44.3	45.1	46.4	48.0	49.7	50.1	50.4	50.6	49.5	48.6	47.3	47.9
1966	45.9	45.7	45.9	47.3	48.3	****	****	51.3	50.3	49.2	47.7	47.5	47.9
1967	45.3	46.0	45.7	46.7	48.0	49.4	50.6	51.1	50.9	49.6	48.5	46.5	48.2
1968	45.3	45.2	46.5	47.1	47.8	49.1	50.4	50.5	50.8	48.8	47.9	46.1	47.9
1969	43.3	43.5	45.0	46.6	48.4	50.4	50.8	50.9	49.7	48.7	47.7	46.7	47.6
1970	45.7	46.0	45.4	46.6	47.8	49.3	50.4	50.5	50.1	48.4	47.1	45.6	47.8
GRAND MEAN	45.3	45.2	45.6	46.9	48.6	50.0	51.0	51.2	50.8	49.4	47.8	46.4	48.1
N.O. OF ENTRIES	29	29	29	29	30	28	29	30	30	30	30	30	29
STANDARD DEV.	1.1	1.2	0.9	0.7	0.8	0.7	0.8	0.7	0.5	0.6	0.9	0.9	0.6
3-YEAR MEAN	45.3	45.2	45.6	46.9	48.6	50.0	51.0	51.2	50.8	49.4	47.8	46.4	48.1
N.O. OF ENTRIES	29	29	29	29	30	28	29	30	30	30	30	30	29
STANDARD DEV.	1.1	1.2	0.9	0.7	0.8	0.7	0.8	0.7	0.5	0.6	0.9	0.9	0.6

**** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

MEAN SEAWATER SALINITIES IN PARTS PER THOUSAND

RACE ROCKS

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1941	*****	*****	*****	*****	31.48	31.50	31.24	31.48	31.63	31.45	31.30	30.97	*****
1942	31.19	30.93	31.44	31.58	31.55	31.62	31.25	31.12	31.31	31.79	31.72	31.46	31.41
1943	31.39	31.33	31.70	31.29	31.53	31.51	31.34	31.12	31.20	31.46	31.53	31.60	31.41
1944	31.63	31.57	31.80	31.91	31.80	*****	31.82	31.86	31.77	31.67	31.71	31.49	31.73
1945	31.37	31.23	31.47	31.59	31.77	31.66	31.52	31.55	31.67	31.82	31.89	31.57	31.58
1946	31.12	31.23	31.17	31.43	31.39	31.05	30.76	30.94	31.43	31.54	31.80	31.26	31.25
1947	31.69	31.24	31.53	31.71	31.64	31.27	31.43	31.08	31.47	31.65	31.24	31.34	31.44
1948	31.07	31.42	31.40	31.53	31.33	30.83	30.46	31.12	31.11	31.19	31.46	31.03	31.16
1949	31.40	31.56	31.33	31.59	31.37	31.28	31.87	31.60	31.45	31.59	31.51	31.07	31.46
1950	31.14	31.12	30.79	31.02	31.34	31.31	30.94	31.05	31.19	31.04	30.90	30.33	31.01
1951	30.21	30.22	30.69	31.34	31.53	31.12	31.37	31.29	31.60	31.67	31.53	31.19	31.14
1952	31.39	31.03	31.33	31.60	31.64	31.30	31.12	31.47	31.49	31.44	31.78	31.58	31.43
1953	30.79	30.51	31.33	31.45	31.43	31.21	31.21	30.99	31.14	31.37	31.27	30.62	31.11
1954	30.46	30.55	30.76	31.05	31.41	31.40	30.72	30.75	30.67	30.86	30.72	30.48	30.81
1955	30.67	30.77	31.38	31.40	31.57	31.28	31.27	30.68	30.94	31.38	30.78	30.78	31.09
1956	30.50	31.04	31.02	31.21	31.26	30.94	30.56	31.15	31.34	31.28	31.44	31.01	31.05
1957	31.22	31.30	31.18	31.26	31.43	31.20	31.14	31.34	31.24	31.12	31.36	31.30	31.25
1958	31.06	30.82	30.88	31.01	30.98	30.78	30.52	31.04	31.22	31.05	30.95	30.85	30.92
1959	30.73	30.65	30.93	31.04	31.20	31.19	30.57	30.83	31.14	30.99	31.06	30.90	30.93
1960	30.94	30.84	31.16	31.14	31.12	31.06	30.66	31.02	31.04	31.21	31.15	30.84	31.01
1961	30.64	30.64	30.43	30.75	30.99	30.52	30.61	31.08	31.42	31.55	31.53	31.35	30.95
1962	31.22	31.33	31.49	31.66	31.44	31.52	31.28	31.31	31.06	31.49	31.13	30.73	31.30
1963	30.77	30.97	31.02	31.09	31.18	31.27	31.17	31.18	31.36	31.34	31.01	30.81	31.09
1964	30.55	30.70	31.15	31.44	31.68	31.50	30.85	30.75	31.17	31.22	31.31	31.14	31.12
1965	30.46	30.42	31.21	31.62	31.50	31.24	31.67	31.54	31.40	31.77	31.26	30.98	31.28
1966	30.83	30.82	31.03	31.13	31.36	31.44	31.34	31.14	31.42	31.50	31.61	31.08	31.22
1967	30.85	30.74	30.94	30.97	31.36	31.09	30.60	30.96	31.04	31.27	30.84	31.17	30.98
1968	30.94	30.64	30.69	30.85	31.28	31.03	30.65	30.95	31.09	31.24	31.01	30.67	30.91
1969	30.55	30.75	30.95	31.09	31.06	30.82	30.86	31.20	31.14	*****	*****	31.13	30.95
1970	31.01	30.75	31.05	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
GRAND MEAN	30.96	30.95	31.14	31.31	31.40	31.21	31.06	31.16	31.28	31.39	31.31	31.05	31.19
NO. OF ENTRIES	29	29	29	28	29	28	29	29	29	28	28	29	28
STANDARD DEV.	0.37	0.33	0.32	0.29	0.21	0.27	0.40	0.26	0.24	0.25	0.32	0.33	0.22
30 YEAR MEAN	30.96	30.95	31.14	31.31	31.40	31.21	31.06	31.16	31.28	31.39	31.31	31.05	31.19
NO. OF ENTRIES	29	29	29	28	29	28	29	29	29	28	28	29	28
STANDARD DEV.	0.37	0.33	0.32	0.29	0.21	0.27	0.40	0.26	0.24	0.25	0.32	0.33	0.22

***** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

WILLIAM HEAD		MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT												
YEAR		JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1921		45.0	44.9	45.3	45.9	47.3	49.2	50.6	50.9	50.6	49.7	48.5	46.8	47.8
1922		43.7	43.1	44.0	45.6	47.0	49.2	51.0	50.6	50.4	48.9	47.2	44.9	47.1
1923		44.3	43.6	44.1	45.7	47.5	48.9	50.7	51.1	51.1	49.4	47.7	46.3	47.5
1924		44.3	45.3	45.9	46.4	48.3	48.1	50.9	50.7	50.5	48.7	47.9	45.3	47.7
1925		44.0	44.5	45.3	46.5	48.6	50.3	52.0	51.5	50.4	48.6	47.1	46.8	47.9
1926		45.2	46.4	47.6	48.6	50.2	51.3	52.1	51.6	51.0	49.7	48.5	47.4	49.2
1927		45.8	45.3	46.1	46.5	48.0	49.7	51.0	51.9	50.7	49.5	47.6	45.7	48.1
1928		44.5	45.2	46.2	47.5	49.6	50.5	51.5	51.8	50.7	48.6	47.5	46.2	48.3
1929		44.9	43.5	44.9	46.1	48.3	49.7	51.5	51.5	51.4	49.8	47.9	46.1	47.9
1930		43.8	44.0	44.9	46.9	48.8	48.4	51.2	51.6	51.2	49.1	47.6	46.5	47.8
1931		46.2	46.2	46.2	46.9	48.8	51.1	52.8	52.1	51.3	49.4	47.5	45.9	48.9
1932		44.8	44.2	45.2	46.6	48.5	50.8	51.5	51.7	51.3	49.4	48.1	45.9	48.2
1933		44.9	44.1	44.8	46.6	48.5	50.5	51.0	52.7	50.2	49.4	47.6	45.9	48.0
1934		45.1	45.4	47.1	48.6	50.1	51.6	51.7	53.0	51.3	49.5	48.7	47.1	49.2
1935		45.1	45.1	45.5	46.3	48.6	50.4	51.0	51.0	51.4	49.5	46.9	46.7	48.1
1936		45.2	44.2	44.7	46.2	48.8	50.8	52.3	52.4	50.9	50.2	47.5	46.4	48.3
1937		43.9	43.7	45.4	47.7	49.9	51.7	53.2	52.7	51.6	49.9	47.3	46.7	48.6
1938		45.4	45.1	46.7	49.0	51.1	54.2	54.9	53.4	52.0	49.9	47.5	45.5	49.5
1939		45.3	44.0	44.6	47.6	50.6	52.6	54.0	52.0	52.6	49.5	****	47.4	49.1
1940		46.3	46.9	46.3	50.2	52.7	53.0	****	****	****	****	****	****	****
GRAND MEAN		45.0	44.7	45.7	47.1	49.1	50.5	51.8	51.7	51.0	49.4	47.7	46.2	48.3
NO. OF ENTRIES		20	20	20	20	20	20	19	19	19	19	18	19	19
STANDARD DEV.		1.3	1.0	1.1	1.2	1.3	1.5	1.2	0.7	0.5	0.4	0.5	0.6	0.6

NO. OF ENTRIES FOR 30 YEAR PERIOD IS LESS THAN 15

***** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

Temperatures observed at 6 feet until September 30, 1936; thereafter at 3 feet.

WILLIAM HEAD

MONTHLY MEAN SALINITIES ‰

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1936	-	-	-	-	-	-	-	-	-	-	-	-	-
1937	31.65	31.76	31.55	31.35	31.26	31.11	30.93	31.12	31.18	31.35	31.64	31.54	-
1938	30.60	30.71	30.79	31.21	31.12	31.19	30.88	31.35	31.23	31.29	30.87	30.82	31.24
1939	31.07	31.18	31.43	31.53	31.30	31.05	31.03	30.77	31.34	31.65	31.55	31.41	31.14
1940	30.76	30.78	30.60	30.91	30.68	30.65	-	-	31.34	31.77	-	30.93	31.22
MEAN	31.02	31.11	31.09	31.25	31.09	31.00	30.95	31.08	31.25	31.52	31.35	31.18	31.16

PULTENEY POINT

MONTHLY MEAN SEA TEMPERATURES F

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1955	46.0	45.4	44.6	45.5	46.9	48.2	49.4	49.2	48.9	47.7	45.5	43.5	46.7
1956	42.8	42.6	42.8	44.3	46.7	47.8	49.4	49.3	48.7	47.8	46.4	45.1	46.1
1957	43.6	43.5	44.0	45.6	47.5	49.2	49.7	50.5	50.5	49.1	47.6	46.7	47.3
MEAN	44.1	43.8	43.8	45.1	47.0	48.4	49.5	49.7	49.4	48.2	46.5	45.1	46.7

MONTHLY MEAN SALINITIES ‰

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1955	30.20	30.61	31.19	31.37	31.57	31.53	31.45	31.59	31.82	31.50	31.23	31.05	31.26
1956	30.84	30.81	30.88	31.00	31.17	31.24	31.27	31.64	31.80	31.32	30.76	30.75	31.12
1957	31.00	31.40	31.27	31.17	31.21	31.28	31.37	31.30	31.37	31.57	31.28	30.30	31.21
MEAN	30.68	30.94	31.11	31.18	31.32	31.35	31.36	31.51	31.66	31.46	31.09	30.70	31.20

YACULTA LANDING, STUART ISLAND

MONTHLY MEAN SEA TEMPERATURES F

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1950	-	-	-	-	-	-	-	-	-	-	-	-
1951	44.7	44.0	43.9	46.4	47.7	49.3	49.9	49.4	-	47.0	45.9	45.2

MONTHLY MEAN SALINITIES ‰

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1950	-	-	-	-	-	-	-	-	-	-	-	-
1951	28.87	28.93	29.22	29.49	29.35	28.48	27.07	28.41	-	28.93	28.80	28.71

MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1937	42.7	43.8	45.7	46.7	49.6	56.7	59.9	****	55.2	50.9	46.7	44.1	49.7
1938	43.5	42.5	44.3	49.9	54.6	56.9	57.7	58.6	56.7	51.9	45.8	43.6	50.4
1939	44.2	43.2	46.2	50.9	54.3	57.2	60.1	58.3	55.8	50.9	48.5	46.3	51.3
1940	44.3	45.1	48.3	52.0	****	****	****	****	56.7	52.1	47.6	46.5	****
1941	46.1	47.2	50.0	51.3	54.1	55.3	56.8	57.2	55.4	53.0	50.1	47.0	51.9
1942	46.3	46.3	47.7	50.0	52.7	56.0	59.2	56.8	53.5	51.0	48.6	****	51.6
1943	43.6	44.4	47.0	49.0	51.8	56.3	58.3	57.9	56.2	52.7	48.6	46.0	50.9
1944	45.5	45.8	46.3	48.9	54.4	56.1	58.3	58.5	56.0	52.9	49.4	46.6	51.4
1945	46.2	46.2	45.3	48.4	55.5	58.0	57.8	58.0	54.2	51.4	45.1	44.1	50.7
1946	43.8	43.5	46.2	49.3	53.9	55.4	58.7	57.8	55.9	49.5	46.5	44.3	50.5
1947	42.7	43.8	46.2	48.3	52.0	55.4	58.4	56.1	54.7	49.6	47.6	46.0	50.3
1948	44.7	44.2	46.0	48.3	51.3	57.0	58.2	57.0	53.8	50.6	47.3	44.1	50.2
1949	41.8	42.3	45.4	48.5	51.3	54.0	56.0	56.4	54.0	50.4	48.2	43.7	49.3
1950	40.9	43.9	45.2	48.7	51.1	56.8	57.8	57.0	53.0	48.8	46.6	44.0	49.4
1951	44.0	43.8	45.1	50.2	52.9	56.6	59.8	56.1	53.5	50.8	47.7	44.7	50.4
1952	42.8	44.5	44.3	48.2	51.0	54.7	57.0	55.5	53.3	51.1	47.3	45.7	49.6
1953	44.3	45.0	45.7	47.8	51.7	55.1	57.6	56.6	53.8	51.2	49.0	47.3	50.4
1954	45.1	47.0	46.0	47.7	50.7	54.4	56.6	57.2	56.1	50.7	48.6	46.0	50.5
1955	45.4	45.2	45.8	47.5	50.4	53.3	58.1	56.8	53.7	49.7	45.2	43.8	49.5
1956	43.6	42.4	44.0	47.9	52.3	52.6	55.6	55.7	53.1	49.9	46.5	44.7	49.0
1957	42.4	43.1	45.4	48.1	53.0	57.0	56.6	57.7	55.4	50.5	46.6	45.9	50.1
1958	45.7	46.2	46.7	49.1	54.0	60.0	59.1	58.0	55.4	50.8	46.6	46.0	51.4
1959	44.8	45.0	46.1	49.2	53.0	57.7	59.4	57.2	56.0	51.5	46.9	45.4	51.0
1960	43.7	45.4	46.3	49.5	53.4	55.6	56.0	58.0	55.1	51.6	46.7	46.0	50.6
1961	44.1	45.7	46.2	49.2	54.2	57.4	58.1	58.4	55.3	51.4	46.8	44.3	50.9
1962	44.8	45.7	46.0	47.7	51.9	54.6	56.6	57.4	53.6	****	49.0	47.0	50.3
1963	45.9	46.4	47.2	48.3	51.3	54.7	58.6	58.5	57.8	53.1	48.0	46.9	51.3
1964	45.9	46.4	46.8	49.2	50.1	56.7	57.6	57.7	54.3	51.9	46.9	44.8	50.6
1965	44.0	44.6	45.9	47.4	50.2	53.1	58.1	57.0	51.9	50.3	48.2	46.0	49.7
1966	45.0	45.9	46.2	49.2	50.9	54.4	58.1	54.8	54.9	50.5	48.0	46.6	50.3
1967	45.5	45.8	46.1	48.3	51.5	58.5	59.5	59.9	56.5	51.5	47.9	46.0	51.4
1968	44.8	45.4	46.5	48.2	51.5	54.8	57.1	57.9	53.9	50.4	48.0	45.6	50.3
1969	42.6	44.0	45.7	47.7	51.8	58.1	56.5	56.5	52.7	51.2	48.5	47.0	50.1
1970	45.4	46.1	47.4	48.6	51.6	55.3	55.9	57.9	54.2	50.5	47.5	45.2	50.5
GRAND MEAN	44.3	44.8	46.2	48.8	52.3	56.0	57.8	57.3	54.7	50.9	47.5	45.4	50.5
NO. OF ENTRIES	34	34	34	34	33	33	33	32	33	33	34	33	33
STANDARD DEV.	1.3	1.3	1.1	1.1	1.5	1.6	1.2	1.0	1.3	1.1	1.1	1.1	0.7
30 YEAR MEAN	44.4	45.0	46.2	48.7	52.2	55.8	57.7	57.2	54.6	51.0	47.6	45.5	50.5
NO. OF ENTRIES	30	30	30	30	30	30	30	30	30	29	30	29	30
STANDARD DEV.	1.4	1.2	1.1	0.9	1.4	1.7	1.2	1.0	1.3	1.1	1.1	1.1	0.7

**** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

MEAN SEAWATER SALINITIES IN PARTS PER THOUSAND

CAPE MUDDGE

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1937	29.86	29.36	30.00	29.69	29.19	27.04	26.73	*****	27.92	28.69	27.50	27.50	28.46
1938	27.96	28.28	29.68	28.88	28.87	28.48	28.15	28.41	28.19	28.57	29.19	29.20	28.57
1939	27.73	28.71	29.47	29.17	29.04	26.90	26.28	28.31	28.39	28.92	27.66	25.89	28.03
1940	26.48	26.94	27.39	29.21	*****	*****	*****	*****	*****	28.78	28.83	28.74	*****
1941	28.99	28.77	29.30	29.63	29.50	29.14	28.92	29.17	29.08	29.24	28.60	25.29	28.80
1942	28.43	27.95	28.79	29.58	29.67	28.22	27.59	28.65	29.29	29.14	*****	*****	28.73
1943	28.77	28.19	30.01	29.86	29.75	28.68	28.19	27.19	28.57	28.89	29.34	29.38	28.90
1944	28.86	29.63	30.04	30.08	30.03	29.42	28.94	28.59	28.91	28.73	28.58	29.09	29.24
1945	28.96	29.04	29.33	29.28	29.73	28.94	28.87	28.85	29.24	29.76	29.65	28.96	29.21
1946	28.97	29.29	28.72	29.94	29.19	26.93	25.89	27.74	28.32	29.34	29.79	29.48	28.63
1947	29.30	29.05	29.61	29.77	29.20	27.54	26.52	28.25	29.06	29.15	29.03	28.78	28.77
1948	28.60	28.75	29.41	29.83	29.51	26.90	27.35	27.35	27.42	28.46	28.56	28.21	28.36
1949	29.52	29.76	29.43	29.95	28.96	28.19	28.00	26.74	28.34	29.21	29.41	28.14	28.80
1950	29.15	28.32	28.46	29.22	29.32	28.08	26.37	26.62	28.17	28.36	28.21	27.21	28.13
1951	27.41	27.70	28.76	29.43	29.37	28.39	28.07	28.25	29.05	29.44	29.17	28.92	28.66
1952	28.77	28.84	29.27	29.82	29.50	28.68	28.19	28.10	28.86	28.99	29.06	29.02	28.92
1953	23.23	28.75	29.38	29.65	29.44	28.21	27.23	28.20	28.52	28.76	27.67	27.43	28.45
1954	28.07	28.25	28.89	29.32	29.55	27.27	26.54	26.57	26.62	27.97	27.71	27.25	27.83
1955	28.21	29.10	29.61	29.50	29.94	28.91	25.84	26.82	27.96	28.94	28.85	28.83	28.54
1956	28.80	29.15	29.05	29.46	29.38	26.93	27.84	28.09	28.83	28.54	28.45	28.92	28.61
1957	28.93	29.55	29.49	29.37	28.92	25.93	27.03	27.06	27.48	29.08	29.46	29.24	28.46
1958	28.55	28.47	29.71	29.00	29.01	27.20	27.63	28.34	28.72	28.92	29.23	28.34	28.50
1959	28.09	28.73	28.82	29.28	29.51	27.09	26.96	28.18	28.20	28.97	29.36	28.88	28.50
1960	28.67	28.59	29.33	28.97	28.77	28.28	28.42	27.44	27.88	28.91	28.42	28.33	28.50
1961	28.20	27.35	27.09	28.42	28.44	27.21	26.67	27.90	28.48	29.38	29.55	29.32	28.16
1962	28.96	29.43	29.83	30.00	29.64	28.37	27.75	26.93	28.67	*****	28.09	27.61	28.66
1963	28.77	28.73	29.13	29.28	29.14	28.61	26.61	27.56	27.70	28.28	28.23	28.42	28.37
1964	28.01	28.55	29.18	29.64	29.82	27.08	24.44	25.94	27.80	28.09	28.66	29.27	28.03
1965	29.17	29.13	29.62	29.81	29.76	29.35	27.93	27.90	29.25	28.96	27.86	28.41	28.93
1966	28.49	29.25	28.82	29.24	29.31	27.85	26.21	27.82	27.85	28.94	28.97	27.54	28.35
1967	28.08	28.39	28.53	28.99	29.12	26.21	25.63	25.77	26.80	27.54	28.28	28.16	27.62
1968	27.78	23.37	27.98	28.84	28.93	28.25	26.98	27.49	28.29	28.62	27.58	27.53	28.05
1969	28.41	28.66	29.16	28.99	28.84	26.19	26.17	*****	*****	*****	*****	*****	*****
1970	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

GRAND MEAN
NO. OF ENTRIES
STANDARD DEV.

28.52	28.71	29.06	29.42	29.32	27.82	27.18	27.67	28.32	28.32	28.82	28.68	28.30	28.50
33	33	33	33	32	32	32	30	31	31	31	31	31	31
0.65	0.65	0.67	0.39	0.37	0.95	1.06	0.84	0.68	0.68	0.46	0.68	1.00	0.36

30 YEAR MEAN
NO. OF ENTRIES
STANDARD DEV.

29.56	28.75	29.09	29.45	29.35	27.86	27.19	27.62	28.33	28.33	28.63	28.73	28.37	28.52
29	29	29	29	29	29	29	28	28	28	27	27	27	28
0.45	0.56	0.61	0.40	0.38	0.96	1.09	0.84	0.70	0.70	0.47	0.64	0.93	0.37

***** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

TEXADA ISLAND

MONTHLY MEAN SEA TEMPERATURES F

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1953	-	-	-	-	54.1	-	62.1	61.5	57.4	52.3	48.8	46.4	-
1954	-	43.6	44.4	46.3	52.6	57.7	61.2	62.8	59.2	52.3	49.4	46.0	52.3
1955	44.5	44.6	44.6	47.3	51.4	57.7	63.3	62.4	57.6	51.7	46.0	-	51.9
1956	43.3	41.9	42.6	47.5	52.7	56.7	-	62.7	57.2	51.6	-	-	-
MEAN	43.9	43.4	43.9	47.0	52.7	57.4	62.2	62.4	57.8	52.0	48.1	46.2	51.4

MONTHLY MEAN SALINITIES ‰

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1953	-	-	-	-	27.15	-	25.04	26.50	27.64	28.14	27.47	27.28	-
1954	-	28.18	28.18	28.79	28.67	23.70	22.93	23.49	24.55	26.92	26.70	25.90	26.18
1955	27.50	28.13	28.93	29.14	29.22	24.76	20.45	24.12	26.45	27.99	28.19	-	26.81
1956	28.86	28.94	29.10	29.20	28.99	24.19	-	26.67	27.51	27.64	-	-	-
MEAN	28.18	28.42	28.74	29.04	28.51	24.22	22.81	25.20	26.54	27.67	27.45	26.59	26.95

SISTERS ISLAND
MONTHLY MEAN SEA TEMPERATURES F

	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>Apr.</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>	<u>Anni.</u>
1968	---	---	---	---	54.3	59.2	64.2	62.8	57.9	51.3	47.9	44.8	---
1969	41.1	42.4	44.3	46.8	55.3	63.2	63.8	61.3	56.8	52.7	48.4	46.2	51.9
1970	44.6	44.9	46.0	47.8	52.6	59.7	61.7	62.4	57.1	52.0	48.1	45.6	51.9
1971	44.0	43.6	43.7	46.9	52.8	57.0	63.0	64.3	57.6	51.6	47.2	44.3	51.3
MEAN	43.2	43.6	44.7	47.2	53.8	59.8	63.2	62.7	57.4	51.9	47.9	45.2	51.7

MONTHLY MEAN SALINITIES ‰

[illegible]

CHROME ISLAND MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1961	****	****	****	48.3	52.8	59.7	63.5	64.2	58.3	51.3	47.8	45.5	****
1962	44.2	44.9	44.5	47.4	53.5	58.2	63.7	59.1	59.0	51.4	49.3	46.4	51.7
1963	44.7	46.0	46.4	48.5	54.2	58.8	60.2	64.0	58.7	52.8	47.4	45.9	52.2
1964	45.2	44.7	45.5	47.5	51.8	57.9	59.7	58.6	56.8	52.2	47.6	44.7	51.0
1965	43.1	43.0	44.4	46.9	52.1	58.6	64.0	63.5	58.1	50.6	48.6	46.1	51.5
1966	43.9	44.1	45.3	48.4	52.3	55.6	61.0	62.2	56.1	51.8	48.1	46.3	51.2
1967	44.6	44.4	44.9	47.2	52.8	62.7	63.1	67.1	57.0	51.2	48.8	45.7	52.4
1968	44.8	44.2	45.7	47.4	53.3	57.9	63.1	61.0	56.5	51.0	48.1	44.8	51.4
1969	41.6	42.5	44.2	46.2	54.0	62.7	63.8	58.5	55.3	51.6	48.3	46.5	51.2
1970	44.4	45.2	46.2	47.7	51.9	59.7	60.9	61.6	55.8	51.5	47.6	45.4	51.4
GRAND MEAN	44.0	44.3	45.2	47.5	52.8	59.1	62.2	61.9	57.1	51.5	48.1	45.7	51.5
NO. OF ENTRIES	9	9	9	10	10	10	10	10	10	10	10	10	9
STANDARD DEV.	1.1	1.0	0.7	0.7	0.8	2.1	1.6	2.7	1.2	0.6	0.6	0.6	0.4

NO. OF ENTRIES FOR 30 YEAR PERIOD IS LESS THAN 15

**** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

CHROME ISLAND

MEAN SEAWATER SALINITIES IN PARTS PER THOUSAND

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1961	****	****	****	27.66	27.70	25.60	25.57	26.78	27.69	28.69	29.08	28.82	****
1962	28.76	28.64	29.04	29.47	28.61	26.93	25.06	26.73	27.10	28.22	27.90	26.04	27.70
1963	27.52	28.00	28.40	28.52	27.83	27.68	26.04	26.61	27.76	28.59	27.88	27.54	27.69
1964	27.62	27.71	28.25	28.78	28.92	26.43	23.73	25.64	26.88	27.62	28.28	28.66	27.37
1965	28.95	28.64	28.50	29.06	28.39	27.30	25.45	26.43	27.31	28.41	28.11	28.02	27.88
1966	28.05	28.33	28.92	28.25	27.97	27.14	24.25	25.20	27.25	28.38	27.61	27.67	27.41
1967	27.57	27.59	28.07	28.42	28.00	24.31	23.46	23.80	27.25	28.23	27.42	27.64	26.81
1968	27.98	27.73	27.75	27.76	27.96	26.25	24.40	26.30	26.87	28.08	27.13	26.76	27.08
1969	28.00	28.47	28.54	28.55	27.06	22.94	24.39	26.89	****	****	****	****	****
1970	****	****	****	****	****	****	****	****	****	****	****	****	****
GRAND MEAN	28.05	28.14	28.43	28.49	28.04	26.06	24.70	26.04	27.26	28.27	27.92	27.64	27.42
NO. OF ENTRIES	8	3	8	9	9	9	9	9	8	8	8	8	7
STANDARD DEV.	0.53	0.42	0.42	0.57	0.54	1.55	0.87	1.01	0.31	0.33	0.59	0.91	0.37

NO. OF ENTRIES FOR 30 YEAR PERIOD IS LESS THAN 15

**** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

ENTRANCE ISLAND MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1936	***	***	***	***	***	60.2	65.3	66.4	59.1	54.5	49.3	47.6	****
1937	44.1	43.3	45.1	47.4	51.5	55.5	62.7	61.1	59.8	52.5	47.9	46.8	51.4
1938	45.4	44.8	44.8	47.7	53.8	60.6	62.7	62.1	60.8	53.7	48.3	45.2	52.4
1939	44.5	43.4	43.8	45.9	53.8	55.7	59.5	59.8	57.6	51.6	48.2	46.3	50.8
1940	44.7	44.8	46.3	50.7	55.1	59.3	61.8	61.9	60.6	56.0	45.9	45.9	52.7
1941	***	***	***	***	53.3	58.3	64.0	63.3	56.9	52.8	50.2	48.9	****
1942	46.4	45.7	46.5	49.0	53.9	59.0	65.9	66.2	59.7	52.9	49.0	47.0	53.4
1943	44.6	44.9	45.5	47.8	53.5	58.1	62.8	64.2	59.4	53.5	49.7	47.4	52.6
1944	45.5	45.1	45.5	48.2	53.3	57.8	62.0	62.1	59.9	53.7	49.4	46.3	52.3
1945	45.7	45.8	46.5	47.7	54.3	59.3	62.6	62.8	56.8	53.4	47.7	45.2	52.3
1946	45.3	44.7	46.4	47.1	54.9	59.2	60.6	62.2	58.4	51.7	47.3	45.1	51.8
1947	44.5	44.2	46.0	48.7	53.8	58.8	61.1	62.6	58.8	51.2	47.7	46.8	52.0
1948	44.4	44.4	45.0	46.9	51.3	61.2	61.7	60.0	56.5	51.8	47.7	44.5	51.2
1949	42.8	43.4	44.6	47.3	54.0	58.5	62.0	60.3	59.1	50.1	48.9	45.0	50.7
1950	40.8	43.3	43.6	46.0	51.1	58.1	64.0	62.4	57.8	50.1	46.6	45.1	51.4
1951	43.7	42.3	42.6	48.4	54.1	58.1	63.7	63.5	58.0	51.0	47.5	45.1	51.5
1952	44.7	43.2	44.4	47.2	52.5	56.2	62.4	61.4	56.8	54.5	48.1	46.8	51.5
1953	45.2	44.4	45.4	48.4	53.9	57.8	62.9	61.5	59.2	51.7	48.8	46.1	52.1
1954	44.2	44.4	44.7	47.1	54.2	55.8	60.7	62.3	57.6	51.8	49.1	46.3	51.5
1955	44.3	44.1	44.0	47.4	51.1	55.5	61.1	62.6	56.8	50.8	45.8	43.1	50.5
1956	42.7	43.6	44.4	48.6	55.6	55.3	62.3	63.4	57.0	50.4	46.3	45.0	51.0
1957	45.5	45.5	46.6	48.1	55.5	60.4	60.4	62.2	60.0	53.1	48.7	46.8	52.1
1958	45.5	45.5	46.4	49.5	57.5	63.7	67.0	65.5	57.1	53.2	48.1	46.6	53.7
1959	44.9	43.9	45.9	48.7	54.5	58.7	62.8	61.9	57.3	52.3	48.6	46.0	52.1
1960	44.2	44.4	45.2	48.5	52.5	58.0	63.1	60.2	57.3	51.9	48.4	45.4	51.5
1961	45.4	45.6	46.1	48.1	54.4	60.7	64.1	64.7	58.1	51.4	47.6	45.1	52.6
1962	43.5	44.2	44.7	48.3	53.1	58.7	62.8	59.9	59.2	51.6	49.3	46.0	51.7
1963	43.1	45.5	46.6	48.8	55.8	60.0	61.9	64.2	61.3	54.5	48.8	46.5	53.0
1964	45.8	44.6	46.0	47.7	53.2	57.8	59.7	61.0	57.6	52.2	47.6	45.2	51.5
1965	43.3	43.0	44.5	47.7	52.3	59.3	64.5	63.3	58.3	51.1	48.7	46.1	51.8
1966	44.3	44.0	45.4	48.6	53.6	56.3	61.2	63.4	58.2	52.4	48.6	46.5	51.8
1967	45.0	44.3	45.1	47.4	53.9	61.7	63.0	67.9	59.1	51.3	48.7	45.4	52.7
1968	45.2	44.0	46.2	47.9	54.2	57.9	64.1	61.4	57.2	51.1	48.2	45.1	51.8
1969	41.4	42.1	44.2	46.9	54.3	61.0	64.4	60.7	56.0	52.5	48.4	46.5	51.5
1970	44.5	45.4	46.6	48.2	53.8	61.3	60.9	62.4	56.3	51.9	47.9	45.7	52.0
GRAND MEAN	44.3	44.1	45.2	47.9	53.7	58.6	62.6	62.5	58.2	52.3	48.2	45.9	51.9
NO. OF ENTRIES	33	33	33	33	34	35	35	35	35	35	35	35	33
STANDARD DEV.	1.2	0.9	1.0	0.9	1.3	1.9	1.6	1.9	1.3	1.3	1.0	1.0	0.7
30 YEAR MEAN	44.2	44.2	45.2	47.9	53.7	58.7	62.6	62.6	58.0	52.1	48.2	45.8	51.9
NO. OF ENTRIES	29	29	29	29	30	30	30	30	30	30	30	30	29
STANDARD DEV.	1.2	1.0	1.0	0.8	1.3	1.9	1.6	1.8	1.2	1.1	0.9	1.0	0.7

**** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

MEAN SEAWATER SALINITIES IN PARTS PER THOUSAND

ENTRANCE ISLAND

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1936	*****	*****	*****	*****	*****	20.75	21.49	24.21	26.03	27.70	28.94	28.62	*****
1937	29.56	27.88	27.34	29.00	27.66	23.84	21.08	25.27	25.37	27.58	26.67	28.34	26.96
1938	28.19	28.52	28.18	28.13	25.35	23.88	24.88	26.15	25.41	28.27	28.95	28.91	27.06
1939	27.60	28.90	28.40	29.25	26.93	24.20	23.04	26.50	27.20	27.76	26.50	24.48	26.72
1940	26.99	27.18	27.21	26.73	23.05	25.79	25.51	25.84	25.30	27.02	27.70	26.46	26.23
1941	27.24	27.65	28.02	27.61	26.71	25.45	25.96	27.21	26.32	26.68	27.36	27.65	26.98
1942	28.10	27.93	28.99	28.75	25.97	22.73	22.56	24.92	27.37	28.36	28.98	28.81	26.96
1943	28.86	29.24	29.38	28.28	27.09	25.75	23.71	23.15	26.24	27.42	28.71	28.91	27.23
1944	29.26	29.35	29.63	29.62	28.67	26.59	25.74	25.92	26.04	26.74	27.51	27.78	27.73
1945	28.03	28.33	29.34	29.33	26.80	24.25	24.88	26.57	26.09	28.46	28.85	28.32	27.56
1946	28.63	29.09	28.66	28.58	26.20	21.60	21.85	24.91	26.09	28.53	29.17	28.73	26.84
1947	29.28	28.80	28.78	28.78	27.02	24.16	22.88	24.89	26.82	28.48	26.89	28.29	27.08
1948	27.70	29.03	29.10	29.12	27.13	20.00	22.95	25.33	25.11	27.24	28.39	28.28	26.61
1949	28.98	29.03	28.63	28.89	26.50	24.38	23.41	24.20	25.82	27.86	28.12	26.94	26.90
1950	28.29	28.77	28.08	27.66	27.03	22.78	18.97	22.20	25.98	27.37	27.03	26.38	25.87
1951	27.32	26.15	27.53	27.94	25.11	25.82	22.78	25.05	27.56	27.63	28.42	28.71	26.66
1952	29.61	28.06	29.14	29.15	26.53	24.29	22.61	25.61	27.10	27.89	29.04	29.72	27.39
1953	28.74	27.66	28.63	28.58	26.54	23.46	22.66	25.54	26.87	27.49	27.68	26.10	26.66
1954	27.42	28.03	27.53	28.56	27.68	23.81	21.21	21.40	23.52	26.44	26.34	27.05	25.75
1955	26.94	27.68	28.81	28.66	28.20	26.30	21.37	21.87	26.15	27.86	27.42	27.91	26.59
1956	28.73	28.87	28.97	28.05	26.71	21.94	24.04	24.81	26.97	27.26	26.87	27.62	26.73
1957	28.00	29.12	28.46	28.02	25.80	21.64	22.67	22.85	25.40	27.68	28.17	28.78	26.38
1958	27.60	26.65	26.99	26.97	26.62	21.48	23.34	25.10	27.16	27.25	27.26	28.14	26.21
1959	27.33	27.39	28.57	28.00	25.91	23.21	22.96	25.35	24.71	25.37	27.30	27.54	26.13
1960	27.95	27.19	28.58	27.19	26.09	23.23	23.34	24.55	24.76	27.81	26.93	27.37	26.24
1961	26.79	27.04	26.53	27.12	24.53	23.18	23.59	25.34	26.92	27.60	28.50	28.11	26.27
1962	27.04	27.19	28.65	28.70	26.26	25.37	22.72	24.69	25.80	27.61	27.71	25.67	26.45
1963	26.17	26.45	27.70	27.87	26.72	24.97	22.28	23.53	24.94	26.68	27.08	27.10	25.95
1964	27.65	27.45	28.20	28.53	26.84	21.33	20.78	22.99	24.91	24.66	27.90	27.97	25.76
1965	28.65	27.86	27.84	28.10	26.10	24.43	22.14	23.80	26.71	28.06	26.02	27.40	26.42
1966	27.92	27.82	28.22	27.41	26.17	24.58	20.40	23.36	25.16	27.44	27.74	27.09	26.10
1967	27.11	26.49	27.46	27.66	26.39	22.43	20.96	21.60	25.69	27.08	26.11	27.14	25.50
1968	28.04	25.49	26.90	27.05	26.61	23.00	21.56	24.36	25.27	*****	*****	*****	*****
1969	27.60	28.02	28.08	27.10	25.89	21.19	21.22	24.07	26.29	26.08	26.89	27.72	25.84
1970	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
GRAND MEAN	27.98	27.95	28.31	28.19	26.44	23.58	22.69	24.50	26.01	27.37	27.67	27.69	26.55
NO. OF ENTRIES	33	33	33	33	33	34	34	34	34	33	33	33	32
STANDARD DEV.	0.85	1.04	0.77	0.77	1.01	1.68	1.56	1.44	0.95	0.84	0.91	1.07	0.55
30 YEAR MEAN	27.96	27.86	28.32	28.18	26.54	23.56	22.60	24.31	26.04	27.32	27.65	27.75	26.52
NO. OF ENTRIES	29	29	29	29	29	29	29	29	29	28	28	28	28
STANDARD DEV.	0.83	1.02	0.77	0.73	0.81	1.69	1.51	1.44	0.99	0.89	0.88	0.90	0.57

***** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

DEPARTURE BAY

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1915	44.7	45.5	47.6	50.9	54.4	59.1	62.9	64.3	59.7	51.8	45.8	43.0	52.4
1916	39.9	40.7	42.0	45.6	51.9	56.9	59.3	63.2	58.0	50.0	44.6	41.8	49.4
1917	41.5	40.9	41.9	44.6	51.2	56.6	61.4	62.2	55.5	51.5	47.3	43.6	49.8
1918	42.3	41.2	42.3	46.4	52.9	57.7	61.0	61.7	61.8	52.2	47.2	44.7	50.9
1919	43.9	42.8	44.3	47.8	52.6	57.4	63.6	63.7	59.6	52.0	47.1	43.2	51.4
1920	43.6	43.3	45.2	48.3	52.8	58.5	64.5	63.9	56.7	51.0	47.6	45.1	51.7
1921	43.2	43.3	45.4	43.3	54.5	58.6	63.7	62.5	55.0	50.8	46.0	42.5	51.1
1922	43.0	41.6	44.2	46.9	52.0	60.1	61.6	59.7	56.6	50.6	45.9	42.9	50.4
1923	33.8	40.3	42.6	43.3	52.8	60.4	65.1	65.0	59.6	53.0	48.1	43.8	51.5
1924	42.5	44.1	40.1	48.4	****	****	61.7	****	****	****	****	****	****
1925	40.7	42.0	44.5	****	****	****	****	****	****	****	****	****	****
1926	45.8	47.0	****	52.9	54.0	60.5	63.8	61.6	57.5	51.5	49.1	44.5	53.5
1927	42.6	43.2	44.9	47.6	52.1	59.9	61.2	63.2	56.9	51.9	45.9	43.3	51.0
1928	42.1	42.8	****	48.5	54.1	59.9	****	63.1	59.0	52.0	48.7	46.0	52.0
1929	43.9	44.2	46.2	48.7	****	58.1	61.8	62.2	59.7	53.2	48.4	46.4	52.0
1930	42.0	43.2	44.3	50.0	53.5	57.2	62.7	64.3	58.9	50.7	46.9	45.3	51.6
1931	45.0	44.3	46.4	51.2	57.8	60.9	66.1	65.2	58.4	51.5	46.8	43.9	53.1
1932	41.7	43.0	44.6	48.9	55.7	61.6	61.6	****	****	****	****	****	51.0
1933	****	****	****	****	****	****	****	****	****	****	****	****	****
1934	****	****	****	****	****	63.5	63.0	63.8	59.2	51.7	48.7	****	****
1935	****	****	****	****	54.9	60.7	****	****	59.2	****	46.7	45.4	****
1936	44.3	42.1	****	****	****	****	****	****	****	53.7	****	****	****
1937	****	****	****	46.7	51.7	59.4	66.2	62.3	61.7	53.7	47.8	45.5	****
1938	44.7	44.1	46.5	51.0	55.1	62.2	65.4	64.4	60.4	53.4	47.8	45.7	53.3
1939	45.2	43.5	46.1	50.6	56.0	60.0	64.2	65.4	60.7	52.0	47.8	46.2	53.1
1940	44.3	45.9	46.6	51.4	58.4	62.7	62.9	62.5	61.3	54.4	47.4	45.7	53.6
1941	45.0	45.6	48.5	52.2	55.9	61.2	65.0	63.6	58.0	52.9	49.5	46.4	53.6
1942	44.7	45.4	47.0	50.8	55.4	60.1	66.4	68.0	60.0	53.2	47.3	45.5	53.6
1943	43.1	43.5	45.3	47.1	54.2	59.5	64.5	64.2	59.0	53.1	48.9	46.1	52.5
1944	45.2	44.9	46.2	49.1	54.9	59.4	64.4	64.0	59.8	54.7	48.9	45.6	53.0
1945	45.4	45.4	45.9	48.1	55.2	60.3	64.0	64.3	57.8	53.5	46.5	44.8	52.5
1946	44.1	44.0	45.1	48.3	55.7	59.7	61.6	62.6	58.7	51.8	47.0	43.9	51.8
1947	42.9	43.4	46.1	49.8	54.7	60.1	63.8	63.7	57.9	52.2	47.3	45.5	52.2
1948	43.5	42.9	44.8	47.9	52.4	62.2	62.3	61.9	57.1	51.8	47.0	43.7	51.4
1949	41.3	42.5	44.8	47.7	55.0	58.9	62.9	61.1	59.8	51.0	48.8	43.8	51.4
1950	37.5	42.0	43.0	46.6	51.6	56.8	66.1	62.6	58.6	50.4	45.9	44.4	50.4
1951	42.3	41.9	42.3	49.1	54.4	59.3	64.4	64.4	58.4	50.9	46.8	44.1	51.5
1952	42.2	42.8	44.4	47.5	53.9	58.0	63.8	62.5	57.5	54.4	47.7	45.3	51.6
1953	43.9	43.9	45.0	48.6	54.5	58.1	63.7	62.6	60.0	52.2	48.5	45.0	52.1
1954	43.2	43.0	44.6	47.1	53.9	56.7	61.3	62.6	58.7	51.6	48.7	45.2	51.3
1955	44.0	44.0	44.1	46.6	52.1	57.1	62.3	63.6	56.6	51.0	45.1	42.6	50.7
1956	42.5	41.4	43.1	49.5	56.6	56.2	64.4	64.8	57.3	50.4	45.9	44.0	51.3
1957	41.5	42.1	44.8	48.8	56.8	61.0	61.0	63.1	61.1	53.4	48.4	45.4	52.2
1958	44.5	45.2	46.4	51.3	58.3	64.8	68.8	65.7	57.4	52.9	47.7	45.4	54.0
1959	43.9	43.1	45.1	49.6	54.6	59.5	63.1	62.1	57.2	52.4	48.1	45.0	51.9
1960	43.5	43.5	44.6	48.7	52.8	58.4	63.7	59.5	57.4	52.0	47.3	44.8	51.3
1961	44.1	44.1	45.4	48.3	54.3	61.4	64.7	64.5	58.1	51.4	46.9	43.5	52.2

DEPARTURE BAY

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1962	42.9	44.0	44.3	48.6	52.9	59.5	63.2	60.8	59.8	51.1	48.2	45.3	51.7
1963	43.1	44.9	45.3	49.0	55.3	59.7	62.4	63.7	60.0	53.6	47.3	45.1	52.4
1964	44.0	44.0	45.2	47.9	52.6	58.9	61.0	61.1	57.4	52.6	47.4	44.0	51.3
1965	42.8	42.5	45.1	48.0	53.2	59.7	65.2	64.6	59.3	51.6	48.4	45.4	52.1
1966	43.3	43.3	44.4	***	***	57.8	61.9	64.8	59.0	52.8	48.2	45.6	52.1
1967	44.0	43.5	45.2	47.8	54.0	63.5	64.1	68.0	59.6	51.6	48.7	45.0	52.9
1968	43.7	43.3	45.3	43.1	54.8	59.3	64.6	60.6	57.6	50.7	47.7	43.5	51.6
1969	41.5	42.2	44.6	47.7	54.5	63.3	64.7	60.0	57.3	52.5	47.2	45.7	51.7
1970	44.1	44.8	46.5	48.4	53.6	60.5	61.1	62.9	57.5	52.4	46.2	43.0	51.7
GRAND MEAN	43.1	43.4	45.0	48.6	54.1	59.8	63.4	63.2	58.6	52.1	47.3	44.6	51.9
NO. OF ENTRIES	52	52	49	50	49	52	51	49	51	51	51	50	48
STANDARD DEV.	1.5	1.4	1.4	1.6	1.7	2.0	1.7	1.8	1.4	1.1	1.1	1.1	1.0
30 YEAR MEAN	43.2	43.6	45.1	48.6	54.4	59.6	63.6	63.3	58.4	52.2	47.5	44.7	52.0
NO. OF ENTRIES	30	30	30	29	29	30	30	30	30	30	30	30	30
STANDARD DEV.	1.5	1.1	1.2	1.2	1.4	2.0	1.7	2.0	1.1	1.1	1.0	0.9	0.8

*** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

DEPARTURE BAY

MEAN SEAWATER SALINITIES IN PARTS PER THOUSAND

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1931	*****	*****	*****	*****	*****	23.73	24.84	26.59	26.09	26.67	26.69	26.25	*****
1932	23.80	26.73	27.74	27.88	26.11	25.10	24.38	*****	*****	*****	*****	*****	*****
1933	*****	*****	*****	*****	*****	23.64	24.09	24.32	26.09	27.53	23.71	*****	*****
1934	*****	*****	*****	*****	*****	22.60	*****	*****	26.79	*****	27.98	*****	*****
1935	*****	*****	*****	*****	*****	*****	*****	*****	*****	27.81	28.71	25.76	*****
1936	25.47	29.12	*****	*****	*****	25.35	20.90	25.53	25.60	27.78	26.02	25.85	*****
1937	*****	*****	*****	27.65	27.31	24.71	25.22	25.39	26.71	27.64	28.04	27.81	*****
1938	27.30	27.53	27.05	27.25	27.96	26.71	25.22	25.39	26.71	27.64	28.04	27.81	*****
1939	25.97	27.58	28.43	28.76	25.98	22.54	20.88	25.90	26.72	27.88	24.84	21.15	26.88
1940	24.63	23.55	25.51	26.72	24.52	23.94	26.28	25.01	25.48	27.09	26.88	24.86	25.55
1941	25.48	26.06	26.46	27.11	25.87	26.27	25.58	27.17	25.52	25.64	26.52	25.07	25.37
1942	27.57	27.23	28.64	28.53	27.15	22.30	21.34	24.70	27.15	28.04	27.54	26.52	26.06
1943	27.79	27.66	28.37	27.13	27.31	23.46	23.34	24.70	27.15	28.04	27.54	27.13	26.44
1944	28.61	29.04	29.47	29.12	28.32	26.55	25.12	25.41	26.12	26.60	26.98	28.80	26.78
1945	27.62	28.08	27.85	28.87	26.92	23.90	24.16	26.38	27.51	28.37	27.43	26.95	27.35
1946	26.87	26.86	27.71	28.24	26.21	20.33	21.48	24.90	26.41	28.33	29.08	27.15	27.01
1947	28.62	26.90	28.36	28.21	26.58	22.10	20.08	24.25	27.05	27.00	26.60	26.71	26.03
1948	26.57	27.75	28.28	28.14	25.57	18.31	21.96	24.14	24.88	27.15	26.76	27.21	25.55
1949	28.47	28.94	27.06	27.33	25.82	24.41	23.25	23.91	25.41	27.89	26.95	25.76	26.26
1950	27.85	26.42	26.36	27.00	26.66	21.30	18.50	22.14	26.03	26.11	26.38	23.89	24.91
1951	25.17	25.48	26.65	27.75	25.26	25.38	22.51	24.40	27.41	27.03	26.18	26.70	25.84
1952	27.41	25.86	28.09	27.40	24.83	22.83	21.94	24.95	26.96	27.76	28.71	28.01	26.22
1953	25.09	26.19	27.83	27.64	26.26	22.67	22.52	25.04	26.74	26.53	24.59	25.02	25.50
1954	25.62	24.52	27.30	27.76	27.93	22.84	19.27	21.02	23.86	26.02	24.27	24.90	24.56
1955	25.94	27.33	28.42	27.82	27.93	25.20	19.35	21.02	26.26	27.14	26.25	26.30	25.74
1956	25.58	28.01	27.18	27.89	26.19	21.48	22.97	24.03	27.25	26.65	26.07	26.10	25.78
1957	27.36	27.23	27.00	27.30	24.32	21.11	22.48	22.86	24.39	27.25	27.54	26.80	25.55
1958	24.48	23.68	26.09	26.50	26.09	19.76	22.96	25.77	26.83	26.87	27.08	25.50	25.13
1959	25.43	26.79	27.07	27.43	25.58	21.73	21.84	25.41	24.04	25.30	27.14	26.76	25.37
1960	27.01	25.55	27.60	26.12	25.12	22.76	23.13	24.97	24.95	27.11	26.52	26.55	25.61
1961	24.19	22.62	24.88	26.24	23.79	22.27	23.49	25.34	26.80	27.25	27.63	26.48	25.08
1962	26.88	27.09	28.07	28.50	25.64	23.37	21.57	24.40	25.45	27.10	25.09	24.28	25.61
1963	26.06	24.72	26.71	26.45	26.34	24.82	21.80	24.00	25.44	25.00	25.46	24.12	25.07
1964	24.60	26.15	27.32	28.22	27.18	20.02	18.28	22.96	24.76	24.43	27.78	27.27	24.91
1965	27.84	26.61	27.63	27.95	25.89	24.66	20.72	23.22	26.76	27.32	24.62	25.32	25.79
1966	25.68	26.68	26.06	*****	*****	22.60	20.31	22.53	25.04	26.72	26.92	24.49	24.70
1967	*****	26.45	25.68	27.48	26.35	21.39	21.03	22.53	25.49	26.23	26.13	26.76	24.88
1968	23.78	24.43	24.67	26.60	26.44	22.81	21.39	24.80	25.02	26.43	24.98	25.16	24.70
1969	27.02	27.00	27.48	25.04	25.69	19.51	*****	*****	*****	*****	*****	*****	*****
1970	26.58	26.13	*****	29.01	*****	*****	*****	*****	*****	*****	*****	*****	*****
GRAND MEAN	26.30	26.51	27.26	27.56	26.22	22.97	22.29	24.33	26.00	26.94	26.56	26.02	25.69
NO. OF ENTRIES	34	35	33	34	34	37	35	34	35	35	35	34	31
STANDARD DEV.	1.42	1.55	1.08	0.90	1.02	2.07	1.98	1.49	0.97	0.89	1.31	1.40	0.71
30 YEAR MEAN	26.45	26.45	27.27	27.54	26.17	22.69	21.90	24.08	25.93	26.80	26.62	26.16	25.66
NO. OF ENTRIES	29	30	29	29	28	29	28	28	28	28	28	28	28
STANDARD DEV.	1.36	1.47	1.09	0.93	1.01	2.09	1.78	1.49	1.06	0.93	1.21	1.24	0.71

PORLIER PASS

HIGH WATER MONTHLY MEAN SEA TEMPERATURES F

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
1967	--	44.8	45.1	46.8	49.7	56.0	59.5	61.0	56.0	51.8	49.0	46.0	51.4
1968	44.8	44.5	45.8	47.3	50.6	55.1	59.1	58.0	56.1	51.1	48.6	45.5	50.6
1969	42.3	42.6	44.3	46.3	51.1	57.7	59.0	56.8	54.6	51.4	48.4	47.0	50.2
1970	45.2	45.8	46.4	47.9	50.0	56.0	58.5	57.9	54.6	51.5	48.3	45.9	50.7
1971	44.1	44.2	44.1	46.2	50.5	52.9	--	58.5	54.8	51.0	47.6	44.8	49.0
MEAN	44.1	44.4	45.1	46.9	50.4	55.5	59.0	58.4	55.2	51.4	48.4	45.8	50.4

HIGH WATER MONTHLY MEAN SALINITIES ‰

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
1967	--	--	--	--	27.84	23.33	24.42	24.71	27.42	28.25	27.31	28.28	--
1968	28.25	27.41	27.54	27.45	27.56	24.85	23.34	26.25	26.62	28.26	--	--	26.73
1969	--	--	--	--	27.51	23.85	24.43	Salinity samples terminated					

LOW WATER MONTHLY MEAN SEA TEMPERATURES F

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
1967	--	44.7	45.4	46.7	50.1	55.4	58.1	61.4	55.0	51.0	48.9	46.3	51.2
1968	45.3	44.6	45.8	47.2	50.8	54.6	58.4	55.7	55.2	50.7	48.7	45.5	50.2
1969	43.1	42.8	44.5	46.0	50.5	56.5	59.5	54.8	53.9	51.0	48.3	47.1	49.9
1970	45.7	46.1	46.4	47.6	50.6	56.0	57.6	58.2	54.0	51.1	48.2	46.5	50.7
1971	44.6	44.5	44.8	46.1	51.2	51.5	--	57.4	53.7	50.4	47.8	44.7	48.8
MEAN	44.7	44.5	45.4	46.7	50.6	54.8	58.4	57.5	54.4	50.8	48.4	46.0	50.2

LOW WATER MONTHLY MEAN SALINITIES ‰

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
1967	--	--	--	--	26.17	22.32	23.41	23.50	26.64	27.53	26.46	28.29	--
1968	28.30	27.31	27.64	27.16	26.60	23.64	24.18	26.29	26.28	28.06	27.01	27.43	26.66
1969	28.27	28.36	28.55	28.42	26.57	23.66	--	Salinity samples terminated					

OBSERVATIONS TERMINATED FEBRUARY 29, 1972

ACTIVE PASS

HIGH WATER MONTHLY MEAN SEA TEMPERATURES F													
	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1967	--	44.7	45.3	47.3	51.5	57.6	59.7	63.4	56.7	51.1	48.4	45.8	52.2
1968	44.4	43.7	45.8	47.5	51.9	56.0	61.9	57.3	55.9	50.6	48.2	44.5	50.8
1969	41.2	41.9	44.5	47.0	52.5	58.4	61.8	56.3	55.3	51.0	47.7	45.6	50.4
1970	44.1	45.1	46.4	48.4	52.2	58.4	59.3	60.7	55.5	51.1	47.5	45.5	51.2
1971	43.4	43.5	44.0	47.1	51.7	53.0	60.8	59.4	55.6	50.6	47.2	43.7	50.0
MEAN	43.3	43.8	45.2	47.5	52.0	56.7	60.7	59.4	55.8	50.9	47.8	45.0	50.7

HIGH WATER MONTHLY MEAN SALINITIES ‰

1967	--	--	--	26.23	21.92	22.66	21.78	25.48	27.48	24.62	28.15
1968	28.22	26.14	26.80	26.49	25.71	17.11	25.31	25.18	27.78	--	--
1969	--	--	27.52	27.33	25.37	20.35	Salinity samples terminated				

LOW WATER MONTHLY MEAN TEMPERATURES F

1967	--	44.7	45.8	48.4	53.7	60.0	61.3	65.5	58.4	51.2	47.9	45.6	53.1
1968	44.4	43.8	46.2	48.3	53.9	57.4	61.6	58.2	56.4	50.5	47.7	44.3	51.2
1969	41.3	42.5	45.4	47.8	54.0	58.8	62.8	58.4	56.3	51.3	47.5	45.5	51.0
1970	44.1	45.5	--	--	Low water observations terminated								

LOW WATER MONTHLY MEAN SALINITIES ‰

1967	--	--	--	23.06	17.98	20.33	20.54	23.30	27.00	22.93	27.41	--
1968	28.39	25.47	26.39	25.76	22.40	18.11	23.84	24.55	27.51	26.22	27.26	24.49
1969	27.85	28.30	27.47	27.28	23.31	19.80	Salinity samples terminated					

LADYSMITH HARBOUR

MONTHLY MEAN SEA TEMPERATURES F

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1938	-	-	-	-	-	-	69.2	67.1	63.5	-	-	-	-
1939	-	-	-	-	-	-	69.3	70.4	63.6	55.1	50.5	-	-
1940	-	-	-	-	-	68.2	69.6	68.8	64.3	56.5	-	-	-
1941	-	-	-	-	57.2	61.7	68.2	65.8	58.4	54.2	50.6	47.7	-
1942	43.7	45.8	46.8	50.8	53.8	58.4	-	-	-	-	-	-	-
1949	-	-	-	-	-	-	-	65.3	63.0	51.1	48.9	-	-
1950	39.1	40.9	43.7	48.0	54.5	64.8	69.7	66.4	60.9	51.3	47.0	44.1	52.5
1951	42.0	42.3	43.2	49.8	58.0	64.7	69.5	68.0	61.6	52.1	47.2	44.0	53.5
1952	41.2	42.5	45.0	45.8	57.4	62.2	68.8	69.3	-	-	-	-	-
1953	-	-	49.7	49.7	57.0	61.6	68.4	66.8	-	54.5	49.3	46.7	-
1954	42.3	41.9	45.7	48.8	-	-	-	-	-	-	-	-	-
1955	43.5	44.2	44.3	48.0	54.5	61.5	67.3	66.7	62.0	-	-	41.7	-
1956	42.4	42.0	44.3	51.7	61.6	58.8	69.6	68.0	59.4	52.5	46.2	-	54.2
1957	41.1	40.7	44.7	-	-	-	-	-	-	-	-	-	-
MEAN	41.9	42.5	44.7	49.1	56.8	62.4	69.0	67.5	61.8	53.4	48.5	44.8	53.5

LADYSMITH HARBOUR

MONTHLY MEAN SALINITIES ‰

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1938	-	-					26.64	27.23	27.87				-
1939	-	-					25.07	26.22	27.61	28.28	22.95		-
1940	-	-					26.82	26.36	27.65	26.94			-
1941	-	-			26.85	26.02	26.47	27.53	27.21	26.42	26.48	23.51	-
1942	26.75	26.91	27.82	28.77	28.55	27.74							-
1949													-
1950	27.66	22.89	25.61	26.05	27.22	26.63	22.21	26.75	27.22	28.27	24.84		-
1951	25.26	24.02	22.51	27.22	25.13	25.91	25.98	24.61	26.60	26.98	26.20	24.10	25.56
1952	26.48	24.23	27.69	28.38	27.50	26.38	25.13	26.40	27.66	27.53	28.23	26.48	26.01
1953	-	-		28.36	27.87	25.85	25.12	26.24	-	27.58	26.28	26.38	-
1954	29.75	20.92	26.83	26.08	-				-				-
1955	25.99	27.25	28.07	27.83	28.51	27.18	25.41	24.63	26.24	-		26.89	-
1956	25.08	28.11	27.60	27.35	27.00	25.18	24.47	25.90	27.54	27.27	27.28	-	26.62
1957	27.91	25.55	25.02										-
MEAN	26.86	24.98	26.39	27.50	27.33	26.50	25.33	26.18	27.29	27.41	26.04	25.47	26.44

EAST POINT LOCATION 1 MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1953	****	****	****	****	****	****	53.5	53.2	53.6	50.5	49.1	47.7	****
1954	45.9	44.7	45.1	46.0	48.5	49.3	51.3	51.8	51.4	49.3	48.4	47.5	48.2
1955	46.1	45.2	44.5	45.6	47.3	49.3	50.6	52.7	51.5	49.2	47.0	45.0	47.8
1956	44.4	43.8	44.4	45.2	49.0	49.5	51.5	51.6	51.7	48.9	46.4	45.0	47.6
1957	44.5	44.2	44.3	46.0	48.7	52.0	52.4	52.1	52.3	51.1	49.4	47.4	48.6
1958	46.4	45.8	46.8	48.2	51.4	53.5	54.2	54.8	52.6	50.4	48.4	47.8	50.0
1959	45.3	44.9	44.7	45.4	47.8	49.8	54.3	54.2	51.9	49.9	47.9	46.8	48.5
1960	42.9	41.8	43.7	47.9	48.5	51.0	53.3	51.2	51.1	****	****	****	****
1961	****	****	****	47.7	49.0	52.2	55.2	54.4	53.2	50.6	48.0	46.7	****
1962	45.6	45.4	45.0	46.7	48.5	51.2	53.3	52.8	53.1	50.4	49.4	47.8	49.0
1963	45.8	45.8	46.3	47.2	49.7	51.6	53.4	53.6	52.8	50.7	49.6	47.6	49.5
1964	47.0	45.7	45.7	46.8	48.4	50.0	51.5	****	****	****	****	****	****
GRAND MEAN	45.3	44.7	45.0	46.6	48.7	50.8	52.8	52.9	52.2	50.0	48.3	46.9	48.6
NO. OF ENTRIES	10	10	10	11	11	11	- 12	11	11	10	10	10	8
STANDARD DEV.	1.1	1.2	0.9	1.0	1.0	1.3	1.4	1.2	0.8	0.7	1.0	1.0	0.8

NO. OF ENTRIES FOR 30 YEAR PERIOD IS LESS THAN 15

***** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

LOCATION 2

1964	****	****	****	****	****	****	****	****	****	51.7	47.5	46.1	****
1965	44.3	44.2	45.2	47.0	50.0	53.6	54.3	57.2	55.5	51.3	48.6	46.0	50.0
1966	44.9	45.2	45.3	47.3	50.3	50.9	53.5	58.0	56.7	51.8	47.5	46.2	49.9
1967	45.4	46.1	****	****	****	****	****	****	****	****	****	****	****

LOCATION 3

1967	****	****	****	48.9	54.2	60.0	59.3	****	****	****	****	****	****
------	------	------	------	------	------	------	------	------	------	------	------	------	------

LOCATION 4

1967	****	****	****	****	****	****	****	61.8	56.0	51.0	48.4	45.5	****
1968	45.1	44.3	****	****	****	****	****	observations terminated					

MEAN SEAWATER SALINITIES IN PARTS PER THOUSAND

LOCATION 1

EAST POINT

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1953	*****	*****	*****	*****	*****	*****	27.86	28.88	28.50	29.12	29.88	29.02	*****
1954	29.17	29.06	28.84	29.33	29.14	28.52	28.02	28.20	28.17	28.68	28.07	28.03	28.60
1955	27.99	27.00	28.08	28.59	29.40	27.83	27.92	26.98	27.67	29.13	29.66	28.09	28.19
1956	29.41	29.11	29.33	28.75	26.48	24.24	25.74	28.64	27.64	27.34	28.31	28.29	27.77
1957	28.30	29.93	29.72	27.90	24.60	25.18	23.82	25.90	25.12	27.75	28.60	28.67	27.12
1958	28.34	27.61	27.80	27.29	24.24	23.89	23.96	26.62	27.81	25.28	26.98	*****	26.34
1959	26.59	26.12	26.28	25.69	25.79	23.78	22.55	27.04	28.02	26.87	28.32	28.57	26.30
1960	26.92	26.71	27.26	27.50	27.97	24.45	24.15	26.33	25.51	*****	*****	*****	*****
1961	*****	*****	*****	28.58	28.63	27.38	27.01	28.56	28.66	29.03	29.49	30.02	*****
1962	29.95	29.61	29.81	30.17	29.39	28.66	27.96	28.96	28.44	29.12	29.85	29.08	29.24
1963	29.03	29.07	28.86	29.68	29.15	28.58	28.02	28.47	28.91	30.10	29.51	29.13	29.04
1964	29.43	28.73	29.23	29.54	29.41	28.86	28.31	*****	*****	*****	*****	*****	*****
GRAND MEAN	28.51	28.29	28.52	28.45	27.65	26.48	26.27	27.68	27.67	28.24	28.86	28.76	27.82
NO. OF ENTRIES	10	10	10	11	11	11	12	11	11	10	10	9	8
STANDARD DEV.	1.10	1.32	1.14	1.29	2.01	2.15	2.10	1.12	1.23	1.42	0.96	0.62	1.15

NO. OF ENTRIES FOR 30 YEAR PERIOD IS LESS THAN 15

**** - INDICATES THAT THE DATA IS MISSING FOR THAT MONTH

LOCATION 2

1964	*****	*****	*****	*****	*****	*****	*****	*****	*****	26.08	28.20	29.28	*****
1965	29.27	28.10	28.82	28.91	27.93	26.64	27.72	26.00	27.17	28.49	28.55	29.72	28.05
1966	29.32	29.29	29.41	28.94	26.97	27.80	26.63	25.12	24.39	27.25	27.83	28.30	27.58
1967	28.33	28.64	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

LOCATION 3

1967	*****	*****	*****	27.56	21.75	18.84	23.06	*****	*****	*****	*****	*****	*****
------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

LOCATION 4

1967	*****	*****	*****	*****	*****	*****	*****	22.73	25.32	27.68	24.86	28.13	*****
1968	28.53	26.19	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

Observations terminated

WHITE ROCK

MONTHLY MEAN SEA TEMPERATURES F

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1954	-	-	-	-	-	-	-	-	-	-	-	-
1955	43.9	43.8	42.2	47.1	52.9	57.3	61.0	61.6	57.9	51.9	48.5	45.4
1956	42.0	39.7	43.0	49.9	55.4	57.4	-	-	57.8	51.3	45.1	42.4
MEAN	43.0	41.8	42.6	48.5	54.2	57.0	-	-	57.8	51.6	46.8	43.9

MONTHLY MEAN SALINITIES ‰

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1954	-	-	-	-	-	-	-	-	-	-	-	-
1955	27.44	26.63	24.10	26.72	25.64	25.47	22.26	24.50	24.88	28.16	28.28	27.60
1956	27.88	27.85	27.38	28.30	26.51	25.64	-	-	25.46	27.01	26.31	26.77
MEAN	27.66	27.24	25.74	27.51	26.08	24.70	-	-	25.17	27.59	27.30	27.19

BEAVER POINT

MONTHLY MEAN SEA TEMPERATURES F

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1953	-	-											-
1954	45.0	44.3	44.9	46.3	49.3	50.7	53.9	53.8	52.6	50.1	48.8	47.3	-
1955	45.2	44.6	44.0	45.9	48.7	51.3	52.6	55.8	52.8	49.5	48.5	46.8	48.9
1956	43.3	42.6	43.1	45.9	50.0	50.9	56.1	55.1	53.1	49.3	45.9	44.1	48.4
1957	43.5	42.9	44.2	47.0	50.6	53.1	54.6	53.9	53.8	50.9	48.3	46.8	48.5
MEAN	44.2	43.6	44.0	46.3	49.6	51.5	54.3	54.6	53.1	50.0	47.7	46.0	48.7

MONTHLY MEAN SALINITIES ‰

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1953													-
1954	28.92	29.20	28.86	29.41	29.51	28.99	27.05	27.72	28.18	28.65	29.74	29.16	-
1955	28.64	29.06	29.55	29.86	29.72	28.74	28.22	26.59	28.30	29.38	28.80	28.65	28.66
1956	29.40	29.51	29.71	29.45	28.49	27.96	26.47	28.15	28.88	29.22	28.99	29.32	28.88
1957	29.38	29.66	29.75	29.73	28.63	27.74	27.13	28.20	28.44	28.95	29.57	29.38	28.80
MEAN	29.08	29.36	29.47	29.61	29.09	28.36	27.22	27.66	28.45	29.05	29.26	29.32	28.83

NEW WESTMINSTER

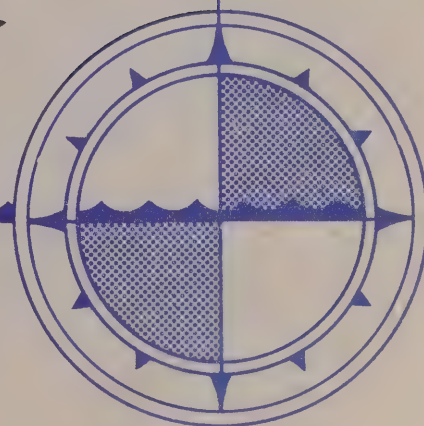
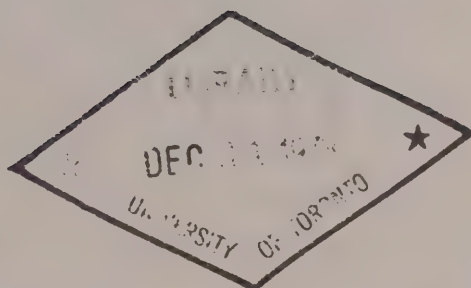
MEAN SEAWATER TEMPERATURES IN DEGREES FAHRENHEIT

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANN
1927	***	***	40.0	44.4	***	55.6	61.1	64.4	58.1	51.1	42.8	36.7	***
1928	35.9	37.9	40.5	44.3	50.3	56.4	***	62.8	59.1	50.3	45.0	39.3	47.5
1929	35.6	32.6	39.8	44.5	51.3	***	60.2	62.7	59.9	52.3	42.0	36.9	47.0
1930	33.0	35.6	39.8	45.9	50.5	54.5	60.0	62.2	59.2	49.4	42.5	40.1	47.8
1931	39.9	39.9	42.6	46.8	51.3	57.7	61.6	64.4	58.7	49.9	42.5	38.5	49.4
1932	37.0	35.4	41.1	47.2	51.6	57.2	58.5	61.2	58.1	55.9	46.4	36.7	48.8
1933	37.5	35.0	39.7	45.1	49.7	53.6	57.4	62.2	57.6	52.5	46.1	39.8	48.0
1934	39.3	39.3	41.7	46.9	52.4	58.3	61.0	63.5	60.9	54.2	47.3	40.5	50.4
1935	35.3	39.3	40.4	44.3	49.3	56.0	61.2	61.5	61.1	47.6	41.0	41.0	48.2
1936	42.1	32.9	38.2	43.5	51.2	59.2	62.4	64.7	59.5	52.9	42.6	36.5	48.9
1937	32.0	33.4	40.0	44.8	50.2	55.6	61.5	62.6	60.7	52.7	46.8	43.4	48.6
1938	37.4	35.8	41.3	44.1	50.1	57.2	62.8	62.5	61.2	53.2	44.7	36.2	48.7
1939	38.8	36.0	39.2	43.1	47.4	54.1	59.6	63.7	58.5	48.5	45.1	44.1	48.1
1940	38.8	38.4	42.4	46.4	51.8	57.3	62.5	63.4	61.7	54.5	41.1	38.0	49.6
1941	39.9	39.3	43.8	48.1	53.0	59.1	65.7	65.2	62.7	57.8	46.2	44.1	52.1
1942	40.2	39.7	40.4	46.4	50.9	57.2	62.5	66.9	60.1	53.1	42.4	42.0	50.1
1943	35.2	36.2	39.7	43.7	50.2	55.9	61.6	63.6	60.1	53.4	44.4	39.4	48.5
1944	38.8	38.4	42.0	45.5	51.1	57.7	62.9	62.6	60.9	52.8	46.9	40.4	49.9
1945	38.8	38.4	40.6	44.4	50.5	55.4	61.3	64.4	58.8	52.6	42.4	38.9	48.8
1946	39.1	38.2	41.9	45.0	50.5	55.2	59.8	62.7	60.7	51.2	40.7	39.6	48.7
1947	38.2	37.4	41.2	45.3	50.7	55.7	59.7	62.4	59.5	54.2	44.4	39.9	49.0
1948	38.2	35.4	39.7	44.5	47.4	57.0	60.9	61.9	57.5	51.2	42.9	36.2	47.7
1949	32.5	32.5	39.1	43.5	49.6	54.7	60.0	61.6	59.9	49.4	45.7	38.4	47.2
1950	***	34.1	38.5	42.5	47.1	53.2	59.7	62.9	60.9	51.2	41.6	40.7	48.3
1951	37.1	36.1	36.8	44.2	48.9	54.9	62.9	64.2	60.5	53.5	41.9	38.1	48.2
1952	33.2	38.4	41.3	43.9	48.1	52.7	59.5	63.8	60.3	54.1	44.9	39.7	48.3
1953	40.2	40.6	41.5	45.8	50.2	53.9	59.8	63.6	59.8	51.6	46.0	41.7	49.5
1954	36.2	37.3	40.0	43.3	47.5	52.2	56.6	60.2	58.3	49.2	46.4	40.3	47.2
1955	37.8	37.5	36.9	42.7	48.3	52.5	57.3	60.2	59.7	50.8	39.4	36.5	46.6
1956	36.3	34.2	38.3	42.8	48.8	52.7	60.3	64.3	59.6	50.5	42.9	40.9	47.6
1957	35.5	36.4	41.3	45.1	51.0	57.3	60.2	61.7	60.8	50.9	44.0	40.5	48.7
1958	41.9	41.3	42.2	45.8	53.5	59.8	66.5	66.4	59.6	50.7	43.4	40.8	50.9
1959	38.9	33.3	42.1	46.0	50.0	55.7	60.8	61.2	57.2	50.6	42.3	40.8	48.6
1960	38.9	39.1	38.7	45.2	50.5	54.2	60.4	62.9	57.8	52.9	44.9	40.7	48.8
1961	41.3	40.9	42.0	45.0	51.1	57.8	63.3	66.6	58.7	49.3	41.2	38.7	49.6
1962	38.2	39.1	39.2	44.7	49.4	54.4	59.2	61.8	58.8	52.0	45.5	41.2	48.6
1963	37.7	39.5	40.8	44.7	51.2	55.6	60.1	64.4	62.6	53.9	44.7	39.6	49.5
1964	39.5	39.3	40.9	44.6	48.1	53.2	58.3	60.1	56.5	50.3	43.1	37.0	47.5
1965	34.8	38.6	40.1	43.5	48.3	55.4	61.8	65.5	58.7	52.1	45.8	40.8	48.7
1966	36.4	38.5	***	43.9	49.8	***	58.6	***	60.6	51.7	44.2	42.2	***
1967	39.6	39.3	40.7	45.2	48.7	55.4	60.0	64.6	62.7	53.2	45.1	38.1	49.4
1968	36.3	37.3	41.9	44.5	50.0	54.4	59.3	62.3	59.1	50.6	44.6	***	49.1
1969	40.4	34.2	39.6	44.0	***	58.1	***	62.0	58.6	51.9	45.2	41.4	47.5
1970	***	***	***	***	***	***	***	***	***	***	***	***	***
GRAND MEAN	37.6	37.3	40.4	44.7	50.0	55.7	60.6	63.1	59.6	51.8	43.9	39.6	48.7
NO. OF ENTRIES	41	42	42	43	41	41	41	42	43	43	43	42	41
STANDARD DEV.	2.4	2.3	1.4	1.2	1.5	1.9	1.9	1.6	1.4	2.0	1.9	2.0	1.1
30 YEAR MEAN	37.8	37.8	40.3	44.6	49.7	55.4	60.7	63.2	59.6	51.9	43.8	39.9	48.7
NO. OF ENTRIES	28	29	28	29	28	28	28	28	29	29	29	28	28
STANDARD DEV.	2.2	2.1	1.6	1.2	1.5	2.0	2.1	1.8	1.5	1.8	1.8	1.7	1.1

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**OBSERVATIONS OF SEAWATER TEMPERATURE
AND SALINITY AT
BRITISH COLUMBIA SHORE STATIONS
1971**

H.J. HOLLISTER



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Water Management Service
Marine Sciences Directorate
Pacific Region
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Victoria, B.C.

MARINE SCIENCES DIRECTORATE, PACIFIC REGION

PACIFIC MARINE SCIENCE REPORT NO. 72-14

OBSERVATIONS OF SEAWATER TEMPERATURE AND SALINITY

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by

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Pacific Environment Institute

West Vancouver, B.C.

Victoria, B.C.

Marine Sciences Directorate, Pacific Region

Environment Canada

July, 1972



Fig. 1. Locations of shore stations making daily oceanographic observations in 1971.

Table 1. List of stations making oceanographic observations in 1971, locations, and names of observers.

Station	Location	Observers
Langara Island	Dixon Entrance, south side	G.C. Wilks D. Smith
Bonilla Island	Hecate Strait, north	H.J. MacArthur W.F. McIlroy
McInnes Island	Milbanke Sound entrance, north side	W.F. McIlroy C. Redhead D.S. Collette (Miss)
Cape St. James	Queen Charlotte Islands, southern end	K.D. Godin D.C. Robinson J.M. Godin (Mrs.)
Egg Island	Smith Sound, southern entrance	E.R. Carson
Pine Island	Queen Charlotte Strait, western entrance	M.I. Nelson (Mrs.)
Kains Island	Quatsino Sound entrance, north side	L.C. Collins (Mrs.)
Amphitrite Point	Barkley Sound, western entrance	O.A. Edwards
Sheringham Point	Juan de Fuca Strait northern shore	E. Bruton (Mrs.)
Race Rocks	Juan de Fuca Strait eastern end	F.B. Anderson (Mrs.) A.A. Anderson (Miss)
Cape Mudge	Strait of Georgia northern entrance	C.W.A. Egg
Sisters Island	Strait of Georgia central	W. Milne I.G. McNeil
Chrome Island	Strait of Georgia, central western shore	L.E. Gardner (Mrs.) T.D. Stewart
Entrance Island	Strait of Georgia, central western shore	E. Cehak (Mrs.)
Departure Bay	Strait of Georgia, central western shore	F.R.B. Personnel
Porlier Pass	Strait of Georgia southwestern shore	R.H. Noble
Active Pass	Strait of Georgia, southwestern shore	J.E. Ruck

Observations of Seawater Temperature and Salinity
at British Columbia Shore Stations in 1971.

by

H. J. Hollister

Introduction

Daily observations of sea surface temperatures and collection of seawater samples for salinity determination have been made since the early 1930's at numerous locations along the British Columbia coast. During 1971, observations were made at 17 shore stations (Fig. 1). Table 1 lists the stations, their general locations, and the names of the observers. This report presents the daily temperature and salinity data and such statistics as the monthly and annual means, maximum and minimum daily values in each month, and standard deviations based on daily observations. Also included are graph plots of a 7-day normally-weighted running mean of temperature and salinity for each station. A general summary of the 1971 temperature and salinity conditions at the shore stations is presented. The monthly mean temperatures and salinities and some associated statistics are tabulated in Tables 2 and 3. The data record publications of observations made in earlier years are listed in the reference section.

Most of the stations are at lightstations, and the voluntary services of the lightkeepers as observers have been obtained through arrangement with the Marine Transportation division of the Ministry of Transport. The Cape St. James station is a combined radiobeacon and meteorological station, and the services of the meteorological staff are obtained by permission of the Regional Director, Air Services. The observers receive a payment from the Fisheries Research Board of Canada for their work.

Observation procedures and equipment

The daily observation is made within one hour before the time of the daytime high tide, or as close as possible to this time, depending upon weather conditions and lightkeeping duties. There are two locations where the observation time is determined in a different manner. At Porlier Pass the observations are made twice-daily, at the times of low- and highwater slack, and at Active Pass the observations are made at the time of highwater slack.

The oceanographic observations are made at a depth of 3 feet. The seawater temperatures are measured with a mercury thermometer graduated in 0.5°F intervals from 30° to 85°F , and are read to 0.1 degree. The thermometer has a backing in the glass stem which reflects the mercury column as a red band. It is compared with a calibrated thermometer to check the accuracy. The maximum allowable index scale error is $\pm 0.3^{\circ}\text{F}$. The thermometer is mounted in a protective case of 1-inch diameter aluminium pipe. At most stations the salinity data are obtained by converting density (or specific gravity) readings obtained by measurements with hydrometers. The hydrometers are

similar to those used by the U.S. Coast and Geodetic Survey at their tide stations, and the observation procedures are taken from the instructions in the U.S.C. & G.S. Hydrographic Manual (Adams, 1942). The hydrometers are supplied in 3 specific gravity ranges of 0.9960-1.0110, 1.0100-1.0210, 1.0200-1.0310, calibrated on a 15/4°C basis. The density scale is divided into intervals of 0.0002 in specific gravity and the hydrometers are checked to a precision of 0.0001. A correction table is supplied with each instrument. The temperature of the seawater sample in the hydrometer jar is measured by a thermometer graduated in 1°C intervals. A 26-oz (738 cc) glass bottle is used to collect a large seawater sample for the density measurements. At 2 stations still taking samples for salinity determinations by laboratory salinometer the usual 2-oz (57 cc) glass bottle with a plastic-lined screw cap is used. The protective thermometer case and sample-bottle holder are attached to a pole made of aluminium pipe, sometimes 20-feet long. This length is necessary because in some locations the observations are made from steep rocky ledges. A few stations cast a 1-gallon bucket into the sea to obtain a water sample for temperature and density measurements because the heavy swells make the pole too unwieldy.

The time of observation, seawater temperature, and hydrometer reading are recorded on monthly record sheets, which are mailed to West Vancouver every two months.

The 1971 sea temperature and salinity data

Sea temperatures are listed as reported by the observer. Data are deleted only when it is found that a faulty thermometer had been used. The expected accuracy of the individual readings is $\pm 0.3^{\circ}\text{F}$. The observed hydrometer readings are reduced to densities at the standard temperature of 15°C, using the tables in the U.S.C. & G.S. publication "*Sea water temperature and density reduction tables*" (Zerbe and Taylor, 1953). The reduced density data are converted to salinity values, after hydrometer calibration corrections have been applied. Field comparisons have shown that at least 85% of the hydrometer salinity data matched associated salinometer-determined values within 0.3 ppt. Only the most anomalous salinity values have been eliminated from the data, when they were obviously due to incorrect hydrometer readings. Seawater samples for salinity analyses were collected at Cape St. James from January 1 to May 31. Density observations were not commenced because the lower field precision (± 0.3 ppt) of the hydrometers would suppress recognition of the usual range of daily salinity variations, 0.1 to 0.3 ppt, at this location. Daily sea temperature observations are continuing. Salinity samples were also collected at Egg Island until June 30, and after this date the salinity data are obtained from hydrometer readings. The salinometer data have an accuracy of ± 0.02 ppt (Strickland MS 1958).

Note concerning Langara Island salinities

There are numerous instances of daily salinity values of 33.0 ppt and higher (cf. April, June, August, November) in the Langara Island data.

These have been identified by a double asterisk (**) in the data listings. They are not included in the monthly mean computations, but they are part of the 7-day running averages and subsequent graph plot. The surface salinity of the coastal ocean near Dixon Entrance rarely exceeds 32.8 ppt. In the ocean around Langara Island, salinities of 33.0 ppt and higher are observed at depths of 100 m and deeper. Past records for Langara show maximum daily salinities generally in the range of 32.2 to 32.5 ppt, as determined by salinity analysis. Even after eliminating the ≥ 33.0 ppt values, the 1971 monthly mean salinities are higher than average. But the effects of the prevalent meteorological conditions would indicate that normal or even lower than average salinities would occur at Langara this year. It is probable that there is also a positive bias to a number of the Langara daily salinity values that have not been eliminated from the computations. The problem of the ≥ 33.0 ppt salinities also occurs in the 1970 data, particularly in June and December. I believe these abnormally high daily salinity values are caused by some differences in the observation procedure used at Langara, and particularly in the hydrometer technique. The present observer is making a careful review of his procedures. New hydrometers have been sent, and the ones previously used are being returned.

The station data listings are arranged in a general north to south order, the same as in Table 1. The position coordinates of each sampling location are given alongside the station name as degrees, minutes and seconds of north latitude and west longitude. The temperature and salinity graph plots in the second section of the report are arranged in a similar order.

Machine processing of the data

The daily temperature and salinity data are processed by computer under the supervision of the Canadian Oceanographic Data Centre, Marine Sciences Directorate, Department of the Environment, at the Computer Science Centre, Department of Energy, Mines and Resources, Ottawa, Ontario. The program was developed for use with an IBM 1620 computer (Somers 1965) and later revised for use with a CDC 6400 computer. The pages in this report are direct-image copies of the computer output.

A 7-day normally-weighted, running mean of the daily data is calculated (Holloway, 1958). An automatic plot of these running means is made on a Calcomp 763 plotter at the data centre. The graphs presented in this report are a direct-image copy of the automatic plots reduced to page size. So that the running mean will be reasonably continuous, interpolated values are inserted in the 1- and 2-day missed periods. These interpolated values are indicated in the daily data tabulations by an asterisk preceding the number. Periods of more than 2 days of missed data are indicated by a *0.0 entry in the tabulations. The running mean computations are interrupted by this entry and there is a break in the graph plot. Invalid days such as April 31 are indicated in the tabulations by an 0.0 entry.

For each month's data, the monthly mean temperature and salinity and the standard deviation based on the daily observations are computed. The monthly means are rounded off at the reported decimal place. The "OBSVNS"

line lists the number of true observed data in each month's tabulations. The maximum and minimum daily values in each month are next listed. The standard deviation (STD DEV) values have been truncated at the second decimal place. Annual mean temperature and salinity are listed on the October-November-December page in the "YRLY MEANS" line.

Summary of sea temperature and salinity conditions in 1971

During the first 6 months of 1971, the monthly mean sea temperatures at most stations were often below normal. After a period of near-normal conditions in late summer and fall, these deficient temperatures again became predominant at the year's end. Only in August and September were there a few instances of above-normal temperatures. A similar trend in sea surface temperatures occurred in the waters over the continental shelf along the B.C. coast, as shown in the monthly temperature charts prepared by the U.S. National Marine Fisheries Service at La Jolla, California.

Minimum monthly mean sea temperatures were generally 5.5°C in the period January to March at the stations along the northern mainland coast. Maximum temperatures of 11.9°C at Langara Island, 13.4°C at Bonilla Island and 13.9°C at McInnes Island were observed in August. Temperatures at Langara Island were significantly below normal during the 4 months March, May, October and November. The deficiency in October was as much as 1.8°C . Temperatures at Bonilla and McInnes Islands were frequently below normal during the first 6 months of the year, and were above normal in August at Bonilla. December was the only below-normal winter month. The stations along the exposed open coast from Cape St. James to Juan de Fuca Strait had minimum monthly mean temperatures in March of 6.5°C to 7.0°C . The maximum temperature in August was 11.9°C at Cape St. James and about 14.0°C at the two stations along the Vancouver Island shore. In Juan de Fuca Strait at Race Rocks, the maximum temperature in August was 10.7°C and at Sheringham Point it was 11.1°C . Sea temperatures at Cape St. James were below normal for six months of the year: April, May, June, September, November and December. The average deficiency was 1.0°C . There were six months of below-normal temperatures at Pine Island in the period January to September. The maximum monthly mean sea temperature in September was 10.5°C ; the minimum was 6.7°C in March. Kains Island temperatures were below normal during the first five months and again in the last two months of the year. The intervening summer period had temperatures near normal, except for an above-normal August. Amphitrite Point temperatures showed the smallest frequency of sub-normal conditions and only in March were temperatures significantly below normal. The September monthly mean temperature was above normal. At Race Rocks there was a continuous 5-month period from March to July of below-normal temperatures, with an average deficiency of 0.7°C . Below-normal temperatures occurred again in October and December.

In the Strait of Georgia, the minimum sea temperature ranged from 5.2 to 6.8°C during January. Maximum monthly mean temperatures in August were 15.0°C at Porlier Pass and Active Pass and up to 17.9°C at Sisters Island. Shore stations in the central Strait of Georgia region frequently observed below-normal sea temperatures during the first six months of the year. During the latter half, the temperatures were normal until September when the trend again shifted to below-normal and continued so to December. Cape Mudge temperatures showed quite a different trend. Temperatures during the period

January to June were normal, followed by above-normal conditions in the three months July, August and September. The August monthly mean temperature was 2.2°C above normal. Normal temperatures returned in the last three months.

In general, salinity conditions at the shore stations were frequently below normal, except at Langara Island, where salinities were above normal most of the year. (There is some doubt about the true extent of this abnormality). Bonilla and McInnes Islands observed above-normal salinities in January, followed by below-normal salinities in April at Bonilla and in February and September at McInnes. Pine Island salinities were above normal in June and below normal in September and October. At Cape St. James, salinities were normal for the first 5 months of the year. Salinity observations were terminated on May 31. Along the west coast of Vancouver Island there were parallel occurrences of below-normal salinity conditions in February, April, September and November at Kains Island and Amphitrite Point stations. At Race Rocks, significantly below normal monthly mean salinities occurred in April, May, August and September. Cape Mudge salinities were considerably below normal during 5 months of the period April to October. The other Strait of Georgia stations had near-normal salinities throughout the year, except for an above-normal January at Chrome Island.

Acknowledgements

I am grateful to the observers who took these observations and maintained such a remarkable continuity in the data, despite stormy weather and often hazardous conditions at the sampling locations. Excellent assistance and cooperation have been received from the District Managers and staffs of the Marine Transportation division, Ministry of Transport, in Victoria and Prince Rupert, as well as from the M.O.T. Radio Branch, who transmitted numerous messages concerning the observations program. The staff of the Canadian Oceanographic Data Centre, under the supervision of Mr. Charles J. Glennie, processed the computations and the graph plots.

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Tabulations of Daily Sea Surface
Temperature and Salinity

1971

TEMP: Temperature[°]F

SAL: Salinity ppt

LANGARA ISLAND

54 15 19 N

133 03 30 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	* 0.0	* 0.0	40.8	32.3	40.8	** 33.0
2	* 0.0	* 0.0	40.5	32.4	40.7	** 33.0
3	42.7	32.7	40.2	32.3	40.9	32.8
4	43.8	** 33.0	40.0	32.3	40.0	32.5
5	43.9	32.5	40.0	32.5	40.6	32.8
6	44.1	32.3	40.2	32.5	40.4	** 33.0
7	43.8	32.3	41.2	32.5	39.8	32.7
8	42.6	32.5	41.2	32.7	40.6	32.4
9	41.3	32.5	41.6	32.5	40.8	32.7
10	41.5	32.5	41.6	32.5	40.6	32.7
11	41.8	32.7	41.8	32.4	40.9	32.5
12	* 0.0	** 33.4	41.9	32.3	41.9	32.7
13	* 0.0	32.7	42.0	32.3	41.2	32.0
14	* 0.0	32.5	42.2	32.3	41.4	32.0
15	* 0.0	32.8	42.5	32.4	41.8	32.1
16	* 0.0	** 33.2	42.5	32.1	41.9	32.4
17	42.9	31.9	42.5	32.3	41.6	32.7
18	42.2	32.3	* 42.2	* 32.5	41.6	32.8
19	41.8	32.4	41.9	32.7	41.7	32.5
20	41.0	32.1	41.8	32.7	* 41.7	* 32.2
21	40.6	32.4	42.5	32.8	41.7	32.0
22	40.2	32.1	42.5	32.5	40.8	32.5
23	40.2	32.5	41.9	32.5	41.6	32.3
24	40.5	32.9	41.6	32.4	41.8	32.3
25	41.0	32.8	40.8	32.3	42.0	32.4
26	41.5	32.5	40.2	32.5	41.7	32.0
27	41.6	32.5	40.0	32.7	42.0	32.5
28	40.8	32.4	40.2	32.8	41.8	32.5
29	40.5	32.3	0.0	0.0	41.9	32.7
30	40.6	32.5	0.0	0.0	42.1	32.3
31	41.6	32.0	0.0	0.0	42.0	32.4
MEANS	41.77	32.45	41.34	32.46	41.29	32.45
OBSVNS.	24	26	27	27	30	27
MAXIMUM	44.1	32.9	42.5	32.8	42.1	32.8
MINIMUM	40.2	31.9	40.0	32.1	39.8	32.0
STD. DEV.	1.23	.25	.91	.18	.65	.26

Note re. salinities with double asterisk on page 3.

LANGATA ISLAND

54 15 19 N

133 03 30 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	42.8	32.5	45.2	32.8	46.5	32.7
2	43.2	32.5	44.9	32.5	45.9	32.8
3	43.3	32.4	44.7	32.7	45.9	32.5
4	43.1	32.3	44.6	32.8	46.5	32.7
5	43.2	32.3	44.8	32.8	46.6	32.5
6	42.6	32.8	44.4	32.4	47.0	32.3
7	42.5	** 33.0	43.7	32.3	46.6	32.5
8	42.6	** 33.0	44.2	32.1	47.2	32.4
9	43.8	32.9	44.5	32.0	47.8	32.5
10	43.9	** 33.0	44.7	31.9	48.0	32.5
11	44.0	** 33.0	44.9	32.3	48.2	32.7
12	44.2	** 33.2	45.5	32.1	48.1	32.8
13	44.8	** 33.0	45.5	32.3	49.5	32.5
14	43.5	32.4	45.6	32.5	48.5	32.8
15	44.4	32.3	45.4	32.1	48.5	32.7
16	44.1	32.1	45.0	32.1	48.2	32.9
17	43.7	32.3	45.2	32.0	48.9	32.7
18	43.5	32.1	45.4	32.0	48.4	32.9
19	42.9	32.0	45.6	32.0	49.5	** 33.2
20	42.2	32.5	45.8	32.3	49.6	** 33.2
21	42.5	32.1	45.5	32.1	49.5	** 33.0
22	42.9	32.3	45.6	32.5	50.0	** 33.4
23	43.8	32.4	44.9	32.7	50.2	** 33.7
24	44.0	32.3	45.2	32.3	50.6	** 33.4
25	45.0	32.1	45.5	32.0	47.4	** 33.3
26	44.0	32.3	45.6	32.3	50.2	32.8
27	43.9	32.4	45.6	32.5	50.2	32.8
28	44.2	32.7	45.8	32.3	50.0	** 33.2
29	44.6	32.7	46.2	32.4	49.8	32.4
30	45.0	32.7	46.5	32.3	* 50.8	* 32.2
31	0.0	0.0	46.2	32.5	0.0	0.0
MEANS	43.61	32.39	45.23	32.32	48.39	32.64
OBSVNS.	30	24	31	31	29	21
MAXIMUM	45.0	32.9	46.5	32.8	50.6	32.9
MINIMUM	42.2	32.0	43.7	31.9	45.9	32.3
STD.DEV.	.77	.24	.61	.26	1.44	.18

LANGARA ISLAND

54 15 19 N

133 03 30 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	51.8	32.1	52.2 **	33.0	56.0	32.4
2	50.4	32.1	51.8	32.8	56.5	32.5
3	50.2	32.1	51.4	32.9	56.0	32.1
4	50.4	32.1	50.9 **	33.2	55.2	32.5
5	50.0	32.4	50.5 **	33.0	55.0	32.5
6	49.8	32.3	50.8	32.8	54.6	32.9
7	49.6	32.1	50.4	32.7	55.0	32.4
8	49.6	32.4	50.6	32.9	54.5	32.4
9	50.0	32.3	50.5	32.7	53.5	32.4
10	51.4	32.3	51.7	32.5	54.2	32.7
11	50.0	32.8	51.9 **	33.0	53.0	32.5
12	50.1	32.4	51.8 **	33.2	53.9	32.4
13	50.5	32.8	51.8 **	33.0	53.9	32.7
14	50.8	32.3	51.5	32.9	53.0	32.8
15	52.0	32.4	52.0 **	33.3	52.5	32.4
16	51.7	32.3	51.9	32.8	53.0	32.5
17	51.8	32.0	* 53.4 *	32.8	52.9	32.5
18	52.0	31.8	54.6	32.9	52.5	32.7
19	* 52.0 *	32.0	54.3	32.3	52.5	32.4
20	* 52.0 *	32.3	55.1	32.4	52.5	32.5
21	52.0	32.5	55.9	32.3	52.2	32.3
22	51.8	32.9	56.2	32.5	52.2	32.3
23	51.4 **	33.0	56.0	32.5	52.5	31.8
24	52.2 **	33.2	56.0	32.7	51.9	31.2
25	52.1	32.9	56.2	32.4	51.9	31.5
26	51.8	32.9	* 56.7 *	32.2	51.5	31.9
27	51.5	32.8	57.2	32.0	51.5	31.8
28	51.6	32.9	57.5	32.4	51.2	31.9
29	52.3 **	33.3	57.5	32.7	50.9	31.6
30	52.6	32.7	56.8	32.4	49.0	32.3
31	52.5	32.9	57.0	32.4	0.0	0.0
MEANS	51.17	32.44	53.52	32.59	53.17	32.29
OBSVNS.	29	26	29	22	30	30
MAXIMUM	52.6	32.9	57.5	32.9	56.5	32.9
MINIMUM	49.6	31.8	50.4	32.0	49.0	31.2
STD. DEV.	.97	.33	2.57	.25	1.70	.40

LANGAKA ISLAND

54 15 19 N

133 03 30 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	49.0	32.5	46.5	32.4	44.5	32.9
2	48.5	32.7	45.2	** 33.7	44.5	32.9
3	48.2	32.9	45.0	** 33.2	44.0	32.9
4	47.9	32.7	44.8	** 33.2	43.5	32.3
5	47.9	32.1	44.0	32.9	45.5	32.5
6	48.0	32.7	44.5	32.4	44.5	32.1
7	48.0	32.1	45.0	** 33.3	45.5	32.9
8	48.2	32.5	44.0	** 33.3	46.0	32.9
9	48.0	32.7	45.0	** 33.8	46.5	32.7
10	48.2	32.5	44.5	** 33.0	45.8	32.7
11	48.5	32.9	44.9	32.5	45.0	32.8
12	48.5	32.5	44.5	32.4	45.0	32.7
13	* 48.2	* 32.3	44.5	32.5	44.5	32.7
14	48.0	32.1	44.5	32.3	* 44.5	* 32.7
15	48.2	32.7	44.5	32.4	44.5	32.7
16	47.9	32.4	44.2	32.3	44.4	32.7
17	47.9	32.7	44.5	32.1	44.5	32.8
18	47.5	32.7	44.9	32.1	44.4	32.5
19	47.5	32.7	45.2	32.5	43.5	32.8
20	47.2	32.5	44.5	32.3	* 43.7	* 32.6
21	47.5	32.9	44.2	32.5	43.9	32.5
22	47.5	** 33.0	* 44.5	* 32.6	43.5	32.5
23	48.0	** 33.0	44.8	32.7	42.5	32.5
24	47.8	** 33.0	45.5	** 33.3	42.0	32.5
25	47.5	32.4	45.2	32.9	42.8	32.8
26	47.0	32.1	44.9	32.9	42.3	32.8
27	46.5	32.0	44.5	32.7	42.0	32.8
28	46.2	32.4	44.5	** 33.0	42.3	32.5
29	46.5	31.9	44.2	** 33.2	42.5	32.7
30	46.5	32.0	44.2	** 33.0	42.5	32.7
31	46.2	32.3	0.0	0.0	42.0	32.4
MEANS	47.68	32.47	44.73	32.49	43.94	32.66
OBSVNS.	30	27	29	18	29	29
YRLY. MEANS.....					46.41	32.46
MAXIMUM	49.0	32.9	46.5	32.9	46.5	32.9
MINIMUM	46.2	31.9	44.0	32.1	42.0	32.1
STD. DEV.	.72	.30	.51	.25	1.32	.20

BONILLA ISLAND

53 29 39 N

130 39 04 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	43.3	31.8	42.3	31.6	* 41.9	* 31.7
2	42.6	31.5	40.7	31.1	42.3	31.6
3	41.9	32.0	* 40.6	* 31.4	42.4	32.1
4	* 42.2	* 32.0	40.4	31.8	41.6	31.9
5	42.6	31.9	40.2	31.5	41.0	31.6
6	43.4	31.6	39.4	31.8	41.0	31.6
7	44.0	31.5	40.2	31.6	41.6	31.5
8	43.7	31.8	40.6	31.5	42.0	31.9
9	42.6	32.0	41.8	31.5	42.3	31.8
10	* 40.5	* 32.2	42.3	31.4	41.8	31.5
11	38.4	32.3	42.7	31.1	42.6	31.5
12	35.4	32.3	42.9	31.4	42.6	31.8
13	37.2	32.0	42.6	31.2	42.4	31.8
14	37.4	32.0	42.7	31.4	42.2	31.2
15	36.4	32.3	43.2	31.0	42.8	31.8
16	39.8	31.8	43.7	31.4	* 42.7	* 31.9
17	40.0	31.1	42.4	31.5	42.6	31.9
18	43.4	32.0	42.6	31.2	40.6	31.2
19	41.6	32.0	* 42.2	* 31.4	42.3	31.4
20	40.4	32.1	41.8	31.6	43.0	31.5
21	42.3	32.4	42.4	31.4	41.6	31.6
22	42.8	31.8	* 42.9	31.5	41.3	31.9
23	42.2	31.9	43.4	32.0	42.4	31.4
24	41.6	31.6	42.6	31.8	41.3	30.8
25	40.1	32.4	42.4	31.5	42.7	31.4
26	41.8	32.3	42.3	32.0	42.8	31.5
27	42.0	32.0	42.2	32.0	43.2	31.6
28	42.3	32.1	41.6	31.8	42.8	31.2
29	41.6	31.8	0.0	0.0	43.4	31.2
30	41.7	31.5	0.0	0.0	45.0	31.5
31	41.8	31.2	0.0	0.0	43.0	31.6
MEANS	41.18	31.90	41.98	31.52	42.30	31.56
OBSVNS.	29	29	25	26	29	29
MAXIMUM	44.0	32.4	43.7	32.0	45.0	32.1
MINIMUM	35.4	31.1	39.4	31.0	40.6	30.8
STD.DEV.	2.26	.33	1.11	.28	.88	.28

BCNILLA ISLAND

53 29 39 N

130 38 04 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	42.7	31.1	49.1	31.5	47.4	31.9
2	43.7	31.2	47.9	31.5	47.5	32.1
3	42.9	31.2	45.8	31.5	46.2	31.9
4	43.1	31.2	45.4	31.4	47.0	31.4
5	43.4	30.8	45.6	31.4	50.2	30.6
6	43.6	31.4	46.3	31.5	50.9	31.5
7	43.4	31.0	45.9	31.2	51.7	30.7
8	43.7	31.6	46.1	31.9	50.6	31.1
9	43.1	31.1	46.1	31.3	49.8	31.4
10	44.0	31.1	46.5	31.4	50.5	31.5
11	45.3	31.1	46.9	31.4	49.6	31.6
12	46.4	31.1	46.7	31.5	48.5	31.6
13	46.0	31.5	49.4	31.5	49.3	31.8
14	45.0	31.6	48.1	31.6	49.5	31.8
15	45.4	31.5	46.6	31.2	49.0	31.9
16	46.7	31.5	48.4	31.4	51.0	32.1
17	45.3	31.8	46.8	31.2	53.2	31.5
18	44.2	31.2	46.6	31.0	51.8	31.6
19	44.0	31.2	45.4	31.1	50.5	31.5
20	43.6	31.1	47.2	31.4	50.8	31.5
21	42.7	31.1	46.6	32.0	50.2	31.8
22	43.6	31.4	46.9	31.8	50.0	31.8
23	45.4	31.1	48.6	31.1	51.5	31.9
24	44.8	31.1	51.8	31.4	52.0	31.9
25	45.2	31.4	47.9	32.0	54.2	32.4
26	44.9	31.4	48.9	32.1	55.0	32.1
27	* 45.2	* 31.6	50.9	32.3	53.5	31.9
28	45.6	31.8	47.9	31.5	53.2	32.0
29	45.4	31.4	50.4	31.8	52.8	31.6
30	46.8	31.4	47.2	31.6	52.0	31.0
31	0.0	0.0	48.0	31.9	0.0	0.0
MEANS	44.48	31.29	47.48	31.55	50.66	31.65
OBSVNS.	29	29	31	31	30	30
MAXIMUM	46.8	31.8	51.8	32.3	55.0	32.4
MINIMUM	42.7	30.8	45.4	31.0	46.2	30.6
STD. DEV.	1.22	.24	1.62	.31	2.12	.40

BONILLA ISLAND

53 29 39 N

130 38 04 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	52.5	31.8	54.8	30.8	57.3	31.5
2	51.8	31.4	55.0	31.1	56.1	30.8
3	51.8	31.2	54.9	31.1	57.6	30.3
4	52.0	31.2	56.0	31.1	56.1	30.7
5	54.0	31.0	56.4	31.1	56.8	30.3
6	55.5	30.8	55.8	31.2	56.2	30.7
7	56.2	31.5	56.5	30.8	55.3	30.4
8	56.3	31.6	55.6	31.5	54.7	31.1
9	56.2	31.8	54.6	32.0	53.5	30.8
10	53.0	31.0	53.8	31.9	55.4	31.0
11	54.8	31.4	53.4	32.0	54.2	30.8
12	55.0	31.6	53.0	32.0	52.7	30.7
13	53.0	31.2	52.6	31.8	54.5	30.8
14	54.3	31.9	54.0	31.4	53.1	30.8
15	55.0	31.8	53.8	31.4	54.5	30.6
16	55.5	31.4	56.5	31.0	55.7	31.5
17	54.0	31.4	57.2	30.8	55.6	31.2
18	54.2	31.4	56.6	31.1	55.6	31.2
19	53.5	31.1	54.8	30.6	54.5	31.5
20	54.2	31.8	54.5	31.1	54.1	31.1
21	55.0	32.0	55.8	31.4	54.4	31.2
22	53.5	31.8	57.9	32.0	54.8	31.6
23	52.7	31.8	57.5	31.4	54.0	31.6
24	52.8	31.8	58.4	31.9	53.4	31.5
25	51.6	31.8	58.5	31.4	54.2	31.5
26	51.8	32.0	59.3	31.4	53.8	31.2
27	51.2	32.0	60.0	31.6	53.1	31.4
28	50.7	31.8	59.8	31.6	52.1	31.1
29	50.2	31.8	59.8	31.2	51.8	31.4
30	56.5	32.1	57.0	31.1	52.2	31.2
31	54.2	31.6	56.5	30.8	0.0	0.0
MEANS	53.65	31.57	56.14	31.34	54.58	31.05
OBSVNS.	31	31	31	31	30	30
MAXIMUM	56.5	32.1	60.0	32.0	57.6	31.6
MINIMUM	50.2	30.8	52.6	30.6	51.8	30.3
STD.DEV.	1.74	.34	2.06	.41	1.49	.39

BCNILLA ISLAND

53 29 39 N

130 38 04 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	52.0	30.8	48.5	30.6	45.8	30.4
2	52.8	31.1	48.0	30.7	* 45.4	* 30.4
3	53.7	30.7	47.8	31.0	45.0	30.4
4	52.5	30.3	47.4	30.6	43.5	30.3
5	52.5	30.4	46.2	30.6	45.0	30.4
6	52.8	30.7	45.5	30.8	44.4	30.4
7	52.9	30.8	46.2	30.6	* 44.8	* 30.4
8	52.4	30.6	46.8	31.0	45.2	30.4
9	51.7	30.7	47.5	30.6	42.8	30.6
10	51.8	30.7	47.2	30.8	43.5	30.3
11	* 51.9	* 30.8	47.5	31.1	43.5	30.0
12	52.0	31.0	46.8	30.0	43.5	30.4
13	50.8	30.7	47.5	30.8	* 43.5	* 30.4
14	50.8	31.0	46.0	30.4	* 43.4	* 30.3
15	50.5	30.7	45.5	30.7	43.4	30.3
16	49.8	31.0	46.4	30.8	43.5	30.6
17	50.4	31.0	47.2	30.8	43.3	30.6
18	50.2	31.0	47.4	30.6	43.4	30.8
19	50.2	30.7	47.3	31.0	43.5	30.8
20	50.0	30.7	47.5	31.0	42.7	30.4
21	49.8	30.7	46.9	30.8	42.0	30.4
22	50.1	30.7	46.5	30.6	42.0	30.6
23	* 50.0	* 30.6	46.7	30.6	40.8	30.3
24	50.0	30.4	46.0	30.2	41.0	30.0
25	49.8	30.8	* 46.1	* 30.3	* 40.9	* 30.2
26	* 49.0	* 30.8	46.2	30.4	* 40.8	* 30.4
27	48.2	30.8	45.7	30.7	40.7	30.6
28	48.5	30.7	45.2	30.6	41.8	30.7
29	49.0	30.8	46.0	30.7	41.2	30.7
30	49.0	30.6	45.8	30.7	42.0	30.6
31	48.8	30.4	0.0	0.0	42.7	30.8
MEANS	50.82	30.73	46.73	30.68	43.05	30.47
OBSVNS.	28	28	29	29	25	25
YRLY. MEANS.....					47.97	31.29
MAXIMUM	53.7	31.1	48.5	31.1	45.8	30.8
MINIMUM	48.2	30.3	45.2	30.0	40.7	30.0
STD. DEV.	1.52	.20	.84	.24	1.39	.22

MC INNES ISLAND

52 15 48 N

128 43 10 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	43.0	31.1	43.4	30.7	41.6	30.0
2	43.8	31.2	42.8	29.3	43.9	31.5
3	43.3	31.5	* 41.9	* 30.0	42.9	31.0
4	43.5	31.2	41.0	30.6	42.5	30.8
5	43.8	31.2	39.5	30.2	43.0	31.2
6	43.5	31.2	38.2	24.3	* 42.9	* 31.2
7	43.8	31.2	38.8	24.0	42.8	31.1
8	43.8	31.4	39.1	26.7	43.4	31.6
9	42.6	31.2	41.4	29.3	43.0	31.4
10	41.2	31.2	42.5	30.4	42.8	31.2
11	39.5	31.1	42.5	30.0	42.8	31.0
12	37.5	31.0	43.4	28.8	42.3	30.7
13	38.2	31.5	43.0	29.8	42.6	31.1
14	37.8	31.5	44.0	31.1	42.7	31.1
15	38.5	31.5	44.0	30.8	42.5	31.1
16	39.4	31.5	43.2	30.3	43.0	30.6
17	40.0	31.4	42.5	29.5	41.9	30.3
18	40.2	31.4	43.0	29.8	42.1	30.3
19	41.0	31.1	42.3	29.0	42.0	30.0
20	42.2	31.2	42.8	29.5	41.8	30.0
21	43.5	31.8	43.0	30.7	41.4	29.8
22	43.5	31.5	43.0	30.0	41.7	29.9
23	43.3	31.5	43.5	30.6	41.8	29.8
24	43.2	31.5	42.7	30.0	41.8	29.9
25	43.0	31.2	42.7	30.0	42.5	30.6
26	43.2	31.5	43.2	30.7	42.4	29.8
27	* 43.4	* 31.4	42.4	30.3	42.6	30.3
28	43.5	31.2	41.8	30.3	42.8	30.3
29	43.5	31.2	0.0	0.0	43.0	30.6
30	43.5	30.8	0.0	0.0	43.2	30.7
31	43.2	31.1	0.0	0.0	43.3	30.6
MEANS	42.00	31.30	42.21	29.51	42.54	30.61
OBSVNS.	30	30	27	27	30	30
MAXIMUM	43.8	31.8	44.0	31.1	43.9	31.6
MINIMUM	37.5	30.8	38.2	24.0	41.4	29.8
STD. DEV.	2.08	.21	1.57	1.77	.60	.55

MC INNES ISLAND

52 15 48 N

128 43 10 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	43.4	31.0	45.5	30.7	48.2	31.8
2	43.5	31.4	45.6	30.8	47.3	31.9
3	43.5	30.8	46.2	31.0	48.5	31.4
4	* 43.5	* 30.8	45.2	30.8	49.2	31.4
5	43.5	30.8	45.2	30.6	49.0	31.4
6	* 43.5	* 30.8	46.0	31.1	50.0	31.4
7	43.5	30.7	46.0	30.8	48.2	31.1
8	43.5	31.0	45.7	30.8	48.5	31.2
9	43.4	30.8	46.0	30.6	48.5	31.4
10	43.2	30.6	46.3	31.1	49.6	31.2
11	43.8	30.7	46.8	31.1	49.0	31.2
12	44.2	30.2	46.5	31.1	49.5	31.1
13	44.0	29.8	46.8	31.4	50.4	31.2
14	44.0	29.9	47.0	31.1	52.2	29.9
15	43.8	30.2	47.3	31.1	50.8	30.2
16	44.4	29.8	46.8	30.8	53.0	29.9
17	44.0	30.6	47.2	30.8	52.8	29.9
18	43.8	30.4	46.6	31.0	53.3	30.4
19	43.8	30.6	46.5	31.0	53.3	31.2
20	44.5	30.8	46.5	30.6	52.3	30.6
21	44.0	31.0	47.2	31.0	52.0	30.0
22	44.2	30.8	47.5	30.8	53.9	26.5
23	44.2	30.7	47.3	31.0	53.0	29.3
24	44.8	31.0	47.6	31.1	53.5	28.9
25	45.0	30.8	48.2	31.0	53.6	28.2
26	45.3	30.3	47.8	31.1	54.3	29.8
27	44.9	30.6	48.0	31.1	55.3	29.8
28	44.8	30.7	47.0	31.4	56.0	30.6
29	45.0	30.7	46.7	31.5	54.1	30.2
30	45.0	30.7	47.2	31.5	52.6	30.8
31	0.0	0.0	48.2	31.6	0.0	0.0
MEANS	44.11	30.62	46.72	31.01	51.40	30.46
OBSVNS.	28	28	31	31	30	30
MAXIMUM	45.3	31.4	48.2	31.6	56.0	31.9
MINIMUM	43.2	29.8	45.2	30.6	47.3	26.5
STD.DEV.	.60	.37	.83	.27	2.45	1.16

MC INNES ISLAND

52 15 46 N

128 43 10 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	53.0	31.1	52.6	30.6	57.4	26.7
2	55.4	30.2	57.0	31.4	56.8	27.1
3	53.7	30.4	56.4	31.5	55.0	29.3
4	54.7	30.2	56.5	31.4	55.2	29.9
5	55.2	30.3	58.7	29.3	55.8	29.7
6	55.4	30.2	60.8	27.6	56.1	29.8
7	55.3	29.8	60.8	28.9	54.9	30.0
8	56.4	28.4	59.4	29.5	55.5	30.3
9	56.3	29.1	60.6	29.7	55.1	29.0
10	55.8	28.5	60.5	30.7	54.8	29.7
11	55.6	29.4	58.0	30.3	54.6	30.7
12	57.0	29.9	55.6	30.8	54.8	31.4
13	58.3	29.5	54.0	31.4	54.5	31.1
14	54.8	29.9	56.7	30.7	54.7	28.6
15	54.4	29.4	56.2	31.0	54.5	28.2
16	56.6	29.8	56.3	30.7	54.6	27.3
17	53.7	29.8	56.2	31.2	55.1	25.9
18	55.6	30.0	56.2	31.6	54.2	27.1
19	55.0	29.9	56.2	31.8	53.8	27.6
20	55.6	30.6	55.4	31.8	53.7	27.4
21	54.4	30.6	55.0	31.8	52.8	28.5
22	53.7	30.7	55.3	31.5	52.7	28.8
23	53.7	30.7	54.3	31.5	54.2	28.9
24	53.5	30.8	55.6	30.8	53.7	29.7
25	54.3	30.8	55.8	30.8	54.5	28.8
26	56.0	31.0	57.5	25.9	53.3	29.3
27	56.5	30.3	57.0	26.0	52.7	29.1
28	56.5	30.4	60.0	25.2	51.3	29.4
29	54.0	30.6	57.8	27.2	53.6	29.0
30	54.0	29.4	57.7	26.0	52.7	28.0
31	54.1	29.9	57.2	25.9	0.0	0.0
MEANS	55.11	30.05	57.01	29.82	54.42	28.88
OBSVNS.	31	31	31	31	30	30
MAXIMUM	58.3	31.1	60.8	31.8	57.4	31.4
MINIMUM	53.0	28.4	52.6	25.2	51.3	25.9
STD.DEV.	1.23	.66	2.07	2.12	1.28	1.32

MC INNES ISLAND

52 15 48 N

128 43 10 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	51.6	29.5	48.2	30.0	* 45.6	* 30.1
2	53.4	31.0	47.6	29.5	45.5	30.2
3	53.0	30.8	47.4	29.5	45.0	29.7
4	52.6	29.7	47.6	30.0	44.7	30.0
5	53.7	31.5	46.9	29.7	44.3	28.9
6	53.7	30.8	46.9	28.9	43.6	28.9
7	53.9	30.3	* 46.8	* 29.2	* 0.0	* 0.0
8	53.8	30.3	* 46.6	* 29.5	* 0.0	* 0.0
9	53.3	29.0	46.5	29.7	* 0.0	* 0.0
10	53.5	29.8	46.7	29.8	43.2	29.0
11	52.9	29.3	46.3	28.8	43.7	30.6
12	52.9	29.1	46.0	27.2	43.8	29.9
13	51.6	30.0	45.3	28.8	41.8	29.3
14	51.3	29.3	45.1	28.9	43.7	30.6
15	51.2	29.0	45.7	28.9	42.8	30.2
16	49.7	27.3	45.9	30.2	43.1	29.7
17	49.6	28.4	46.4	30.4	44.3	30.6
18	49.7	28.8	46.8	31.2	42.3	29.7
19	49.0	28.6	* 46.8	* 30.8	42.5	29.8
20	49.7	29.3	46.7	30.4	42.5	29.5
21	* 49.8	* 29.7	46.8	31.6	42.0	29.8
22	* 50.0	* 30.2	46.3	30.2	40.8	30.2
23	50.1	30.6	45.9	29.0	40.6	29.9
24	49.8	31.0	* 45.8	* 28.8	41.0	29.8
25	* 49.0	* 30.4	45.7	28.5	40.8	29.9
26	48.2	29.9	46.2	30.4	41.0	30.0
27	47.4	29.3	45.6	27.8	41.8	30.3
28	46.0	28.1	45.2	27.6	41.8	30.3
29	47.5	28.8	45.7	29.9	41.6	30.4
30	48.4	30.3	* 45.6	* 30.0	42.2	30.7
31	48.7	30.8	0.0	0.0	42.7	30.6
MEANS	50.94	29.59	46.38	29.48	42.71	29.94
OBSVNS.	28	28	25	25	27	27
YRLY. MEANS.....					48.13	30.12
MAXIMUM	53.9	31.5	48.2	31.6	45.5	30.7
MINIMUM	46.0	26.1	45.1	27.2	40.6	28.9
STD. DEV.	2.33	1.18	.80	1.05	1.37	.51

CAPE ST JAMES

51 56 18 N

131 00 50 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	45.6	32.5	44.0	32.4	43.7	32.1
2	45.7	32.5	43.5	32.3	43.7	32.4
3	46.3	32.4	43.3	32.3	43.7	32.4
4	45.9	32.4	43.9	32.3	43.3	32.3
5	46.4	32.4	43.8	32.3	43.2	32.3
6	46.2	32.4	43.7	32.2	44.5	32.3
7	46.0	32.4	44.9	32.3	43.0	32.3
8	46.2	32.5	44.8	32.4	44.1	32.3
9	45.3	32.3	44.9	32.4	44.3	32.3
10	43.2	32.5	44.8	32.5	44.4	32.4
11	* 43.2	* 32.5	44.9	32.4	43.8	32.5
12	43.1	32.5	45.0	32.4	44.7	32.4
13	42.9	32.5	44.8	32.4	44.0	32.4
14	42.7	32.3	45.2	32.2	43.4	32.3
15	43.7	32.4	45.1	32.4	43.4	32.4
16	45.0	32.5	45.2	32.3	43.8	32.2
17	44.7	32.3	45.0	32.3	44.2	32.3
18	44.8	32.5	44.0	32.3	44.4	32.2
19	44.3	32.4	44.6	32.3	43.4	32.2
20	43.4	32.4	43.8	32.4	43.0	32.2
21	43.9	32.5	44.8	31.2	42.5	32.2
22	44.8	32.4	45.3	32.5	42.4	32.2
23	44.4	32.3	44.6	32.4	42.8	32.1
24	44.2	32.4	44.8	32.3	42.8	32.1
25	43.1	32.3	43.7	32.3	42.7	32.3
26	45.0	32.5	44.4	32.2	43.2	32.3
27	45.8	32.4	44.1	32.3	43.1	32.2
28	45.2	32.4	43.9	32.2	43.0	32.2
29	44.2	32.3	0.0	0.0	43.4	32.3
30	45.7	32.3	0.0	0.0	43.2	32.4
31	45.0	32.3	0.0	0.0	43.0	32.3
MEANS	44.76	32.41	44.46	32.30	43.49	32.29
OBSVNS.	30	30	28	28	31	31
MAXIMUM	46.4	32.5	45.3	32.5	44.7	32.5
MINIMUM	42.7	32.3	43.3	31.2	42.4	32.1
STD.DEV.	1.12	.08	.59	.23	.62	.10

January 1 to May 31: Salinity data obtained by salinometer analyses.

CAPE ST JAMES

51 56 18 N

131 00 50 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	43.1	32.2	44.8	32.2	46.5	* 0.0
2	43.6	32.2	44.7	32.1	46.7	0.0
3	43.3	32.2	44.8	32.0	48.0	0.0
4	43.1	32.2	44.9	32.0	* 48.4	0.0
5	43.3	32.2	45.1	32.0	48.7	0.0
6	43.2	32.3	45.4	32.2	48.0	0.0
7	43.2	32.2	45.1	* 32.1	47.0	0.0
8	43.1	32.3	45.2	32.1	47.8	0.0
9	42.8	32.2	45.7	32.1	47.1	0.0
10	43.5	32.4	45.2	32.1	47.2	0.0
11	44.3	32.2	45.4	32.2	* 47.2	0.0
12	44.5	32.2	45.3	32.3	47.1	0.0
13	44.3	32.1	45.2	32.2	48.2	0.0
14	43.8	32.2	45.8	32.3	48.1	0.0
15	44.2	32.2	45.5	32.2	47.5	0.0
16	44.5	32.1	46.2	32.1	47.9	0.0
17	43.7	32.1	45.5	32.0	49.0	0.0
18	43.8	32.0	45.3	32.1	49.0	0.0
19	43.7	31.9	* 45.6	* 32.0	* 48.4	0.0
20	43.1	32.1	* 45.9	* 32.0	47.8	0.0
21	43.9	32.0	46.2	31.9	48.2	0.0
22	44.2	32.1	* 46.2	* 32.0	47.9	0.0
23	44.2	32.3	46.3	32.1	* 48.2	0.0
24	44.4	32.2	45.9	32.2	48.5	0.0
25	44.6	32.1	46.5	32.2	* 48.4	0.0
26	45.2	32.2	46.3	32.2	48.4	0.0
27	44.5	32.2	47.1	32.1	48.6	0.0
28	44.4	32.2	46.0	32.6	48.4	0.0
29	44.6	32.1	46.2	32.2	48.7	0.0
30	44.8	32.2	47.4	31.9	48.7	* 0.0
31	0.0	0.0	46.8	32.1	0.0	0.0
MEANS	43.90	32.17	45.71	32.13	47.96	0.00
OBSVNS.	30	30	28	27	25	0
MAXIMUM	45.2	32.4	47.4	32.6	49.0	0.0
MINIMUM	42.8	31.9	44.7	31.9	46.5	0.0
STD.DEV.	.63	.09	.71	.14	.71	0.00

June 1: Salinity observations terminated.

CAPE ST JAMES

51 56 18 N

131 00 50 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	49.4	* 0.0	57.5	* 0.0	51.2	* 0.0
2	49.0	0.0	* 56.6	0.0	52.0	0.0
3	49.9	0.0	55.8	0.0	* 51.5	0.0
4	48.2	0.0	56.7	0.0	51.0	0.0
5	52.0	0.0	58.5	0.0	50.7	0.0
6	50.4	0.0	55.9	0.0	49.5	0.0
7	50.7	0.0	55.4	0.0	48.5	0.0
8	51.1	0.0	* 56.4	0.0	48.7	0.0
9	51.0	0.0	57.4	0.0	49.0	0.0
10	50.3	0.0	54.0	0.0	48.6	0.0
11	51.7	0.0	54.4	0.0	48.9	0.0
12	52.1	0.0	54.3	0.0	48.5	0.0
13	50.0	0.0	* 54.0	0.0	* 49.1	0.0
14	49.4	0.0	53.8	0.0	49.8	0.0
15	49.8	0.0	54.8	0.0	50.2	0.0
16	50.3	0.0	55.2	0.0	50.2	0.0
17	52.0	0.0	53.2	0.0	51.3	0.0
18	51.8	0.0	53.3	0.0	52.1	0.0
19	51.3	0.0	50.4	0.0	51.5	0.0
20	51.5	0.0	50.0	0.0	* 51.9	0.0
21	51.0	0.0	50.3	0.0	52.3	0.0
22	51.7	0.0	50.3	0.0	53.3	0.0
23	52.8	0.0	49.7	0.0	52.4	0.0
24	53.1	0.0	* 49.8	0.0	52.0	0.0
25	55.3	0.0	49.8	0.0	51.8	0.0
26	* 56.2	0.0	49.9	0.0	53.9	0.0
27	57.0	0.0	50.7	0.0	52.1	0.0
28	57.4	0.0	52.9	0.0	53.2	0.0
29	58.0	0.0	* 53.2	0.0	* 53.0	0.0
30	59.3	0.0	53.6	0.0	52.8	* 0.0
31	57.5	* 0.0	53.5	* 0.0	0.0	0.0
MEANS	52.17	0.00	53.51	0.00	50.98	0.00
OBSVNS.	30	0	26	0	26	0
MAXIMUM	59.3	0.0	58.5	0.0	53.9	0.0
MINIMUM	48.2	0.0	49.7	0.0	48.5	0.0
STD. DEV.	2.93	0.00	2.68	0.00	1.65	0.00

CAPE ST JAMES

51 56 18 N

131 00 50 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	52.3	* 0.0	47.2	* 0.0	44.8	* 0.0
2	51.4	0.0	46.9	0.0	44.4	0.0
3	* 51.5	0.0	46.6	0.0	44.3	0.0
4	51.6	0.0	46.5	0.0	* 44.5	0.0
5	50.3	0.0	46.9	0.0	44.7	0.0
6	51.1	0.0	* 46.2	0.0	44.9	0.0
7	50.6	0.0	45.4	0.0	* 44.8	0.0
8	51.3	0.0	45.6	0.0	44.6	0.0
9	50.6	0.0	46.4	0.0	* 44.4	0.0
10	* 50.7	0.0	* 46.3	0.0	44.2	0.0
11	* 50.7	0.0	46.3	0.0	44.4	0.0
12	50.8	0.0	45.6	0.0	44.3	0.0
13	49.8	0.0	45.6	0.0	43.7	0.0
14	50.3	0.0	* 45.8	0.0	* 44.0	0.0
15	* 50.4	0.0	45.9	0.0	44.3	0.0
16	50.6	0.0	* 45.9	0.0	* 44.2	0.0
17	50.2	0.0	45.9	0.0	44.1	0.0
18	50.4	0.0	46.0	0.0	44.1	0.0
19	49.8	0.0	* 45.9	0.0	43.9	0.0
20	49.6	0.0	* 45.8	0.0	43.7	0.0
21	49.1	0.0	45.7	0.0	43.3	0.0
22	* 49.2	0.0	45.9	0.0	* 0.0	0.0
23	49.4	0.0	46.1	0.0	* 0.0	0.0
24	49.3	0.0	45.5	0.0	* 0.0	0.0
25	47.9	0.0	45.3	0.0	* 0.0	0.0
26	47.8	0.0	* 45.2	0.0	* 0.0	0.0
27	* 47.6	0.0	45.2	0.0	42.9	0.0
28	47.5	0.0	* 45.1	0.0	42.7	0.0
29	* 47.5	0.0	44.9	0.0	42.9	0.0
30	47.6	* 0.0	45.3	* 0.0	43.2	0.0
31	* 47.4	* 0.0	0.0	0.0	* 43.2	* 0.0
MEANS	49.97	0.00	45.94	0.00	43.97	0.00
OBSVNS.	23	0	22	0	20	0
YRLY. MEANS.....					47.19	32.26
MAXIMUM	52.3	0.0	47.2	0.0	44.9	0.0
MINIMUM	47.5	0.0	44.9	0.0	42.7	0.0
STD. DEV.	1.31	0.00	.61	0.00	.66	0.00

EGG ISLAND

51 15 06 N

127 49 53 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	* 44.0	* 31.6	43.9	30.7	43.0	30.8
2	44.2	31.6	43.5	30.0	* 42.7	* 30.9
3	43.9	31.5	43.6	* 29.7	* 42.3	* 31.1
4	44.2	31.5	41.5	* 29.3	42.0	31.3
5	44.2	31.5	41.5	29.0	42.9	31.4
6	43.9	31.4	42.1	30.0	43.2	31.3
7	44.0	31.4	* 42.7	* 30.3	42.8	31.1
8	44.2	31.3	43.3	* 30.5	43.2	31.4
9	43.7	31.3	43.3	30.8	42.2	31.4
10	* 42.8	* 31.4	43.8	30.8	43.1	31.3
11	41.9	31.5	44.0	30.8	43.1	31.3
12	42.4	31.6	44.2	30.8	42.9	31.4
13	42.9	31.5	43.9	30.8	43.0	31.4
14	42.9	31.6	44.0	* 30.8	43.4	31.4
15	43.4	31.5	44.0	30.8	43.2	31.3
16	43.8	31.6	44.0	30.8	43.1	31.2
17	43.9	31.5	* 43.9	* 30.8	43.2	31.2
18	44.4	31.4	43.8	30.7	43.5	31.3
19	44.8	31.5	43.9	30.8	* 43.5	* 31.2
20	44.5	31.6	* 43.8	* 30.7	43.5	31.1
21	44.1	31.6	43.8	30.7	43.4	31.1
22	43.9	31.5	44.1	30.9	* 43.4	* 31.1
23	43.5	29.5	44.0	30.8	43.5	31.2
24	42.9	31.3	43.5	30.7	43.5	31.2
25	43.1	31.3	* 43.0	* 30.8	43.4	31.2
26	43.8	* 31.3	42.5	30.9	44.0	31.3
27	44.1	31.3	* 42.7	* 30.8	44.3	31.3
28	43.9	31.3	43.0	30.7	44.2	31.4
29	43.8	31.0	0.0	0.0	43.9	31.3
30	43.9	30.9	0.0	0.0	44.3	31.3
31	44.1	30.6	0.0	0.0	44.0	31.4
MEANS	43.73	31.32	43.44	30.61	43.33	31.26
OBSVNS.	29	28	23	19	27	27
MAXIMUM	44.8	31.6	44.2	30.9	44.3	31.4
MINIMUM	41.9	29.5	41.5	29.0	42.0	30.8
STD. DEV.	.64	.42	.80	.46	.56	.13

January 1 to June 30: Salinity data obtained by salinometer analyses.

EGG ISLAND

51 15 06 N 127 49 53 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	43.9	31.3	47.6	29.6	* 47.8	* 30.4
2	44.0	31.3	48.1	29.1	47.4	31.0
3	43.9	* 31.3	46.5	30.2	46.8	31.2
4	44.0	31.3	45.7	30.4	48.6	31.0
5	44.3	31.4	* 46.3	* 30.2	52.6	29.9
6	44.9	31.5	* 47.0	* 30.0	* 51.9	* 29.7
7	44.6	31.3	47.6	29.8	51.2	29.5
8	44.3	31.2	47.3	31.4	50.4	30.6
9	44.5	31.3	45.5	31.0	48.5	31.2
10	44.4	31.3	48.2	30.5	48.2	31.1
11	45.4	31.3	50.8	30.3	48.1	31.2
12	45.1	31.3	48.7	30.5	49.4	31.0
13	45.7	31.2	48.7	30.3	50.0	30.3
14	44.9	31.2	47.3	30.9	52.0	29.5
15	44.9	31.1	48.2	27.0	54.9	26.3
16	45.1	31.2	46.8	29.3	53.1	29.9
17	45.1	31.1	47.5	29.5	55.0	29.3
18	44.9	31.0	46.7	30.1	52.5	29.9
19	44.8	31.1	46.8	29.3	53.3	29.6
20	44.8	31.2	47.6	30.0	53.5	30.0
21	45.1	31.2	47.3	30.5	52.1	25.9
22	44.6	31.2	47.3	30.8	52.1	27.9
23	44.9	31.2	48.3	29.9	50.5	30.3
24	45.7	31.0	49.4	29.8	49.3	30.1
25	46.2	31.0	49.0	30.1	49.4	30.0
26	* 45.9	* 30.9	47.8	30.6	48.0	31.0
27	45.7	30.8	48.4	30.8	49.4	30.9
28	45.5	30.7	* 47.6	* 30.8	50.4	30.9
29	45.4	31.0	46.7	30.8	48.6	31.1
30	45.4	29.9	47.0	30.4	* 50.1	* 30.2
31	0.0	0.0	48.3	29.9	0.0	0.0
MEANS	44.90	31.12	47.68	30.10	50.57	30.02
OBSVNS.	29	28	28	28	27	27
MAXIMUM	46.2	31.5	50.8	31.4	55.0	31.2
MINIMUM	43.9	29.9	45.5	27.0	46.8	25.9
STD. DEV.	.59	.29	1.11	.82	2.29	1.36

EGG ISLAND

51 15 06 N

127 49 53 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	* 51.6	* 29.3	60.7	27.2	54.3	30.7
2	53.1	28.4	60.8	26.7	52.8	30.4
3	53.5	28.9	54.2	31.0	52.1	30.6
4	50.9	29.0	54.4	30.8	53.0	32.3
5	* 51.9	* 28.4	54.0	30.6	52.2	31.0
6	52.8	27.8	54.7	31.1	52.2	31.1
7	56.9	26.5	56.5	29.5	53.0	31.5
8	55.4	27.3	54.8	31.1	* 52.6	* 31.2
9	56.2	27.6	57.7	29.3	52.3	31.0
10	55.5	28.1	58.8	29.3	52.5	31.0
11	55.7	27.3	56.5	30.3	52.4	31.1
12	56.8	26.0	57.3	29.0	52.9	30.4
13	55.8	26.7	57.2	29.3	51.2	30.4
14	55.4	28.0	56.4	29.1	52.2	30.3
15	54.5	28.0	55.4	29.0	52.8	29.4
16	54.0	28.8	57.2	26.7	53.2	28.2
17	* 55.1	* 28.1	54.4	29.1	53.8	28.1
18	56.2	27.4	50.7	31.1	* 54.4	* 26.4
19	53.8	29.7	50.2	30.8	55.1	24.7
20	54.5	29.5	* 50.1	* 30.9	55.0	27.1
21	56.4	27.8	50.0	31.1	54.0	26.1
22	55.4	27.8	50.4	30.7	54.3	26.0
23	53.2	29.0	50.7	31.1	53.2	27.1
24	55.0	28.8	51.3	31.2	* 53.6	* 27.3
25	59.5	28.4	52.8	31.0	54.1	27.6
26	56.8	28.6	53.6	30.6	52.8	29.0
27	58.3	29.1	54.7	30.2	52.8	28.6
28	60.0	29.4	57.0	29.7	52.0	29.4
29	61.1	28.9	57.4	28.5	51.6	29.0
30	58.3	29.0	56.1	* 29.5	51.3	29.9
31	59.4	26.9	* 55.2	30.4	0.0	0.0
MEANS	55.87	28.10	55.03	29.84	52.93	29.33
OBSVNS.	28	28	29	29	27	27
MAXIMUM	61.1	29.7	60.8	31.2	55.1	32.3
MINIMUM	50.9	26.0	50.0	26.7	51.2	24.7
STD.DEV.	2.38	.98	2.99	1.32	1.03	1.92

July 1 to December 31: Salinity data obtained by hydrometer.

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	50.4	29.3	46.7	31.0	45.5	31.2
2	49.5	30.8	47.1	30.8	45.0	31.1
3	49.0	31.1	47.0	31.4	45.1	30.8
4	49.2	31.4	46.6	31.2	45.3	30.8
5	51.0	30.8	46.7	31.5	45.1	32.4
6	50.2	31.5	46.9	31.2	44.5	32.4
7	51.4	31.4	46.0	31.8	44.5	32.3
8	52.0	30.2	* 46.0	* 31.6	45.1	32.4
9	51.5	31.1	46.1	31.5	* 45.0	* 31.6
10	51.4	30.4	45.9	31.5	44.8	30.8
11	51.5	29.9	45.5	31.1	44.9	31.0
12	51.3	31.5	45.5	31.0	44.5	30.8
13	50.0	31.9	45.7	30.7	43.5	30.7
14	49.8	30.8	45.8	31.2	43.4	30.8
15	49.5	30.3	45.5	31.2	43.8	31.2
16	49.2	29.1	45.1	31.2	44.1	30.8
17	49.8	29.8	45.9	31.2	43.7	30.6
18	49.5	30.6	45.9	31.0	43.2	31.0
19	49.1	30.0	46.2	31.0	43.0	31.1
20	49.3	30.0	46.3	31.1	42.1	31.0
21	48.1	31.1	46.2	31.1	43.1	31.5
22	48.0	31.6	46.6	31.5	* 42.0	* 31.4
23	47.3	31.1	45.9	31.2	40.8	31.4
24	47.3	31.1	46.3	31.2	40.8	31.6
25	47.5	31.1	46.0	31.2	41.5	31.4
26	47.4	30.7	45.8	31.0	41.6	31.6
27	46.9	31.2	45.6	31.0	41.9	31.4
28	46.6	30.6	45.6	31.0	42.5	31.8
29	47.5	31.5	45.6	30.6	42.1	32.0
30	47.0	31.0	* 45.6	* 30.9	42.3	31.8
31	46.6	31.2	0.0	0.0	42.5	32.0
MEANS	49.19	30.76	46.07	31.16	43.46	31.37
OBSVNS.	31	31	28	28	29	29
YRLY. MEANS.....					48.07	30.42
MAXIMUM	52.0	31.6	47.1	31.8	45.5	32.4
MINIMUM	46.6	29.1	45.1	30.6	40.8	30.6
STD. DEV.	1.66	.67	.51	.26	1.43	.57

PINE ISLAND

50 58 33 N

127 43 35 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	44.4	31.8	45.0	31.6	43.8	31.4
2	44.4	31.8	45.0	31.4	43.5	31.4
3	44.2	31.8	44.6	31.2	43.6	31.4
4	44.7	31.8	44.5	31.4	43.5	31.5
5	44.6	31.6	44.8	31.2	43.4	31.5
6	44.4	31.8	43.8	31.2	43.5	31.2
7	44.6	31.6	43.5	31.0	43.5	31.8
8	44.5	31.6	43.6	31.1	43.6	31.5
9	45.2	31.5	44.4	31.4	43.4	31.4
10	43.8	31.5	45.0	31.4	* 0.0	* 0.0
11	43.2	31.9	44.6	31.4	* 0.0	* 0.0
12	43.8	31.6	44.3	31.4	* 0.0	* 0.0
13	45.2	31.6	44.4	31.1	44.3	31.8
14	45.0	31.6	44.4	31.4	44.2	31.9
15	44.6	31.5	44.8	31.2	44.4	31.6
16	44.7	31.5	44.4	31.4	44.0	31.6
17	44.2	31.5	44.5	31.4	44.0	31.6
18	44.4	31.4	44.8	31.4	44.3	31.6
19	* 44.4	* 31.4	44.6	31.4	44.2	31.4
20	* 44.4	* 31.5	44.4	31.5	44.6	31.4
21	44.4	31.6	44.2	31.5	44.9	31.5
22	44.2	31.9	44.2	31.5	44.2	31.5
23	44.2	31.6	44.0	31.5	44.0	31.5
24	43.8	31.4	44.2	31.4	44.0	31.4
25	43.4	31.4	43.8	31.1	43.6	31.5
26	43.4	31.2	* 43.8	* 31.2	44.0	31.4
27	43.5	31.4	* 43.9	* 31.3	44.0	31.5
28	43.8	30.7	43.9	31.4	44.0	31.8
29	43.4	29.7	0.0	0.0	44.5	31.6
30	43.8	29.7	0.0	0.0	44.3	31.4
31	44.8	29.9	0.0	0.0	44.2	31.5
MEANS	44.23	31.38	44.37	31.34	43.98	31.52
OBSVNS.	29	29	26	26	28	28
MAXIMUM	45.2	31.9	45.0	31.6	44.9	31.9
MINIMUM	43.2	29.7	43.5	31.0	43.4	31.2
STD.DEV.	.55	.60	.42	.15	.40	.15

PINE ISLAND

50 58 33 N

127 43 35 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	* 44.2	* 31.6	45.0	31.6	47.8	31.9
2	* 44.2	* 31.7	45.8	31.6	48.0	32.0
3	44.2	31.8	46.1	31.8	48.9	31.9
4	44.0	31.8	45.4	31.8	48.0	31.9
5	44.6	31.6	45.4	31.6	49.0	31.9
6	44.6	31.6	45.5	31.8	* 49.0	* 31.9
7	44.5	31.4	* 45.6	* 31.8	49.0	31.9
8	45.0	31.6	* 45.7	* 31.8	49.2	31.6
9	44.8	31.5	45.8	31.8	48.8	31.9
10	44.8	31.5	45.8	32.0	47.5	31.8
11	45.2	31.5	45.6	31.9	46.9	31.9
12	45.2	31.5	45.8	32.1	46.8	32.4
13	44.6	31.4	46.0	32.0	46.4	32.1
14	44.7	31.5	46.0	32.3	46.5	32.1
15	44.7	31.2	45.4	32.3	47.4	31.9
16	44.9	31.9	45.2	32.1	48.2	32.0
17	44.8	31.8	45.2	31.8	47.8	32.0
18	45.0	31.5	45.1	31.6	47.6	31.9
19	45.0	31.5	46.0	31.6	47.5	31.8
20	44.8	31.2	47.0	31.9	48.0	32.0
21	44.6	31.5	47.0	31.6	47.8	32.0
22	44.7	31.8	47.0	31.6	47.5	32.0
23	44.8	31.6	47.0	31.9	47.5	32.0
24	44.4	31.2	47.4	31.9	47.6	32.0
25	45.0	31.8	48.0	32.1	47.8	32.1
26	45.2	31.6	47.3	31.9	47.6	31.9
27	* 45.0	* 31.7	48.0	31.9	47.8	31.9
28	44.8	31.8	48.0	32.1	48.4	32.1
29	44.8	31.8	47.5	32.1	49.2	32.0
30	45.0	31.6	47.8	32.1	48.2	31.8
31	0.0	0.0	48.0	32.1	0.0	0.0
MEANS	44.77	31.57	46.38	31.89	47.89	31.96
OBSVNS.	27	27	29	29	29	29
MAXIMUM	45.2	31.9	48.0	32.3	49.2	32.4
MINIMUM	44.0	31.2	45.0	31.6	46.4	31.6
STD. DEV.	.28	.20	1.03	.22	.75	.14

PINE ISLAND

50 58 33 N

127 43 35 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	48.4	31.8	50.0	31.5	50.6	32.1
2	48.6	31.6	50.2	31.6	50.8	31.9
3	49.2	31.8	49.8	31.9	51.2	31.8
4	48.4	32.0	48.8	31.9	50.2	31.8
5	48.4	31.9	49.6	31.5	50.6	31.9
6	48.6	31.9	* 49.3	* 31.4	51.4	31.9
7	48.5	32.1	49.0	31.4	* 50.8	* 31.8
8	49.2	32.0	50.0	31.8	* 50.2	* 31.7
9	49.0	32.0	51.2	32.0	49.6	31.6
10	* 48.7	* 32.0	49.2	32.1	50.2	31.8
11	48.5	31.9	49.2	31.9	50.8	31.8
12	48.5	31.9	49.2	31.9	* 50.7	* 31.8
13	47.9	31.8	* 49.7	* 31.8	50.6	31.8
14	48.8	32.3	* 50.2	* 31.7	52.4	31.8
15	48.5	32.0	50.6	31.6	53.0	31.8
16	49.3	31.9	50.5	31.6	52.6	31.8
17	49.3	31.9	* 50.2	* 31.7	52.4	31.6
18	49.5	32.0	* 49.8	* 31.8	49.8	31.8
19	48.0	32.1	49.4	31.9	51.6	32.1
20	51.0	31.5	50.6	32.0	* 0.0	* 0.0
21	* 50.3	* 31.6	49.6	31.9	* 0.0	* 0.0
22	* 49.5	* 31.8	50.0	31.9	* 0.0	* 0.0
23	48.8	31.9	49.6	32.1	51.3	32.1
24	48.9	31.9	49.5	32.1	49.8	31.6
25	50.0	32.1	49.6	32.0	49.4	31.8
26	49.9	32.0	49.8	31.9	49.2	31.5
27	49.8	32.0	50.2	32.0	49.8	31.6
28	50.0	32.0	48.8	31.9	49.8	31.8
29	* 50.3	* 31.9	50.0	31.6	48.6	31.4
30	50.6	31.8	* 50.0	* 31.6	49.0	31.6
31	51.2	32.0	50.0	31.6	0.0	0.0
MEANS	49.14	31.93	49.78	31.82	50.61	31.78
OBSVNS.	27	27	25	25	24	24
MAXIMUM	51.2	32.3	51.2	32.1	53.0	32.1
MINIMUM	47.9	31.5	48.8	31.4	48.6	31.4
STD.DEV.	.87	.16	.59	.21	1.19	.18

PINE ISLAND

50 58 33 N

127 43 35 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	48.8	31.5	* 0.0	* 0.0	* 0.0	* 0.0
2	48.8	31.6	* 0.0	* 0.0	* 0.0	* 0.0
3	48.2	31.4	46.2	31.8	46.8	31.2
4	48.2	31.4	46.3	31.8	* 0.0	* 0.0
5	49.5	31.9	46.2	31.8	* 0.0	* 0.0
6	49.6	31.9	* 45.7	* 31.8	45.9	31.2
7	48.8	31.9	45.2	31.8	44.2	31.0
8	48.0	32.0	45.2	31.6	44.6	31.1
9	48.0	32.1	45.0	31.6	* 0.0	* 0.0
10	48.2	32.0	45.4	31.9	* 0.0	* 0.0
11	48.2	32.0	46.6	31.6	* 0.0	* 0.0
12	48.0	32.0	47.2	31.2	44.8	31.5
13	50.4	31.8	47.0	31.4	44.2	31.1
14	51.5	31.9	46.4	31.4	* 0.0	* 0.0
15	50.4	31.8	46.4	31.4	* 0.0	* 0.0
16	50.2	31.8	46.6	31.4	* 0.0	* 0.0
17	50.4	31.8	46.4	31.5	* 0.0	* 0.0
18	* 49.6	* 31.8	46.4	31.5	* 0.0	* 0.0
19	48.8	31.9	* 46.0	* 31.5	* 0.0	* 0.0
20	48.2	31.9	* 45.6	* 31.5	44.2	31.5
21	* 47.7	* 31.8	45.2	31.5	43.8	31.2
22	47.2	31.8	45.3	31.4	* 0.0	* 0.0
23	* 48.8	* 31.8	46.4	31.8	* 0.0	* 0.0
24	50.4	31.8	46.4	31.2	* 0.0	* 0.0
25	49.4	31.8	47.0	31.2	* 0.0	* 0.0
26	48.0	31.5	47.0	31.4	40.6	31.4
27	48.2	31.6	47.0	31.2	* 0.0	* 0.0
28	48.0	31.5	47.8	31.4	42.9	31.5
29	48.0	31.5	* 0.0	* 0.0	43.6	31.8
30	* 0.0	* 0.0	* 0.0	* 0.0	42.6	31.0
31	* 0.0	* 0.0	0.0	0.0	43.5	31.2

MEANS	48.90	31.77	46.29	31.51	43.98	31.28
OBSVNS.	26	26	23	23	13	13
YRLY. MEANS.....					46.74	31.67
MAXIMUM	51.5	32.1	47.8	31.9	46.8	31.8
MINIMUM	47.2	31.4	45.0	31.2	40.6	31.0
STD. DEV.	1.08	.21	.75	.22	1.52	.24

KAINS ISLAND

50 26 39 N

128 01 47 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	42.3	30.0	44.0	23.3	44.2	30.6
2	42.5	30.0	44.6	27.4	44.2	31.0
3	42.2	30.2	43.6	28.4	43.8	30.4
4	42.6	30.0	41.7	25.9	43.4	29.9
5	42.8	29.9	41.0	26.9	43.2	30.0
6	43.5	30.0	41.5	27.2	44.2	31.0
7	44.1	30.3	42.7	26.8	43.2	30.2
8	44.4	30.0	41.8	28.4	44.1	30.2
9	43.1	29.8	43.7	29.3	43.4	29.8
10	42.0	29.9	44.6	28.9	43.6	29.5
11	41.0	30.6	44.1	28.6	43.5	29.8
12	40.7	30.4	45.3	29.3	44.2	31.1
13	39.3	30.0	44.8	28.0	43.5	29.5
14	40.2	30.0	45.3	28.9	43.8	29.8
15	44.0	31.1	45.1	28.8	43.7	29.1
16	43.6	31.0	44.9	26.3	43.7	29.1
17	43.2	29.8	44.3	27.7	44.0	28.9
18	44.4	30.8	44.4	27.1	44.8	29.7
19	42.7	30.8	44.5	28.6	43.9	29.4
20	43.2	30.7	44.5	28.8	44.6	29.0
21	42.2	30.0	44.5	28.9	44.2	29.5
22	42.5	28.5	44.9	28.0	44.3	29.8
23	42.4	27.8	45.0	29.5	44.4	29.7
24	42.4	28.6	44.3	28.8	44.1	31.0
25	42.3	29.1	43.9	29.5	43.8	28.6
26	43.1	29.3	43.8	29.4	44.2	29.0
27	44.1	29.5	43.2	29.9	44.5	30.3
28	44.4	24.3	43.7	30.6	45.1	30.3
29	43.8	22.5	0.0	0.0	45.1	29.5
30	44.2	23.7	0.0	0.0	44.8	29.7
31	44.2	25.2	0.0	0.0	45.4	29.9
MEANS	42.82	29.15	43.92	28.19	44.09	29.85
OBSVNS.	31	31	28	28	31	31
MAXIMUM	44.4	31.1	45.3	30.6	45.4	31.1
MINIMUM	39.3	22.5	41.0	23.3	43.2	28.6
STD.DEV.	1.27	2.20	1.18	1.47	.56	.66

KAINS ISLAND

50 26 39 N

128 01 47 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	44.4	29.5	47.8	30.0	48.4	31.9
2	44.8	29.8	49.6	28.9	50.1	32.0
3	45.0	28.6	48.7	29.0	48.6	31.9
4	45.1	29.0	48.0	29.8	48.3	31.9
5	45.1	28.4	47.6	30.4	49.6	31.9
6	45.3	29.8	47.6	30.3	51.0	31.9
7	45.4	29.9	47.2	30.3	49.6	31.9
8	45.4	29.3	46.8	30.7	49.9	32.4
9	44.9	28.4	47.8	31.1	50.2	32.3
10	44.2	29.3	47.5	31.2	50.6	31.9
11	45.7	28.8	48.2	30.6	51.0	32.5
12	45.7	28.9	47.3	31.1	51.8	32.1
13	46.2	29.5	47.8	30.8	52.2	31.9
14	45.7	30.0	47.8	31.1	53.2	31.9
15	46.2	29.5	48.0	30.6	52.4	32.0
16	46.2	29.1	49.3	30.7	52.3	31.9
17	46.1	29.1	48.2	30.6	53.6	31.9
18	45.5	29.9	47.8	30.7	50.8	31.9
19	45.7	30.3	49.0	31.1	51.1	31.9
20	45.8	28.9	48.2	30.6	51.6	31.9
21	45.7	29.7	47.8	31.0	52.6	31.9
22	46.4	29.7	48.3	30.6	53.2	31.6
23	47.3	29.1	48.0	30.8	53.2	31.9
24	46.4	29.7	49.2	31.1	52.7	31.6
25	47.1	30.2	49.4	31.4	52.8	31.0
26	48.3	30.4	48.8	30.7	52.7	29.7
27	46.8	30.8	49.3	31.4	53.8	30.4
28	46.0	30.4	48.8	31.8	54.0	30.6
29	46.4	30.6	49.1	31.8	53.3	31.6
30	46.6	30.3	48.1	31.6	52.0	31.2
31	0.0	0.0	50.1	31.9	0.0	0.0

MEANS	45.85	29.56	48.29	30.76	51.55	31.71
OBSVNS.	30	30	31	31	30	30

MAXIMUM	48.3	30.8	50.1	31.9	54.0	32.5
MINIMUM	44.2	28.4	46.8	28.9	48.3	29.7

STD. DEV.	.87	.65	.79	.70	1.66	.59
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KAINS ISLAND

50 26 39 N

128 01 47 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	53.5	31.1	52.2	32.0	57.4	31.2
2	53.4	30.6	55.7	32.3	57.8	30.8
3	53.0	31.2	55.9	32.0	57.4	31.4
4	51.8	31.2	56.2	32.3	57.8	31.5
5	52.0	31.0	57.1	32.1	57.5	30.6
6	52.8	30.8	57.7	32.1	57.4	30.8
7	52.8	31.1	58.2	31.9	56.8	31.1
8	53.0	30.8	59.4	32.0	57.3	30.4
9	53.7	31.1	59.6	32.7	56.3	29.7
10	53.8	31.5	60.6	32.3	56.9	30.8
11	54.3	31.9	60.8	32.1	56.2	30.3
12	55.6	31.4	58.3	32.5	56.6	30.7
13	56.8	31.2	59.7	32.1	56.8	28.9
14	56.1	31.2	57.7	32.1	56.7	27.7
15	55.7	31.4	59.3	31.9	56.1	29.0
16	55.5	31.9	58.7	32.5	53.9	30.2
17	56.0	31.2	58.3	32.4	54.0	30.0
18	56.4	31.5	58.4	31.6	54.5	30.3
19	53.8	31.1	56.7	32.1	56.7	29.9
20	52.3	30.6	56.0	32.0	54.3	30.6
21	53.0	31.8	57.4	31.9	54.3	30.6
22	54.6	31.5	58.2	31.5	54.6	30.7
23	53.0	31.8	56.5	31.6	53.8	30.8
24	53.7	32.1	57.5	31.1	53.9	30.7
25	54.0	32.1	58.5	30.0	54.6	30.3
26	53.8	32.0	57.6	29.9	52.5	30.6
27	55.2	32.0	57.7	30.8	53.1	30.4
28	53.5	32.1	57.4	30.6	52.8	30.6
29	55.0	32.1	57.9	31.1	51.7	30.6
30	55.0	32.4	57.8	31.2	51.3	30.7
31	57.2	32.5	57.4	31.4	0.0	0.0
MEANS	54.20	31.49	57.76	31.75	55.37	30.40
OBSVNS.	31	31	31	31	30	30
MAXIMUM	57.2	32.5	60.8	32.7	57.8	31.5
MINIMUM	51.8	30.6	52.2	29.9	51.3	27.7
STD.DEV.	1.44	.52	1.64	.70	1.94	.77

KAIS ISLAND

50 26 39 N

128 01 47 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	52.6	30.8	48.8	29.9	46.6	28.9
2	54.1	31.4	48.5	30.0	46.1	29.1
3	53.8	31.0	48.4	29.1	44.0	28.0
4	54.1	29.5	47.8	29.4	45.6	29.0
5	55.0	28.4	47.2	29.0	45.6	28.9
6	54.7	30.2	47.4	29.8	45.6	28.9
7	53.5	29.8	48.3	30.6	46.1	29.1
8	54.1	29.8	48.2	30.3	45.9	29.7
9	53.2	30.0	46.8	29.9	45.4	29.8
10	53.4	30.0	46.9	24.0	43.5	27.6
11	54.0	30.0	46.4	23.0	44.6	29.0
12	54.3	30.6	46.3	24.4	44.4	29.0
13	52.8	29.0	47.3	25.8	44.2	29.4
14	52.3	29.4	46.1	26.9	44.2	29.4
15	50.6	28.4	46.5	27.4	44.5	29.4
16	50.8	28.9	46.8	27.2	45.2	29.4
17	50.9	29.0	46.8	27.3	44.3	29.1
18	50.6	29.8	47.4	28.1	44.6	29.3
19	49.7	30.0	48.0	28.6	44.6	29.7
20	50.1	30.2	48.1	28.5	45.1	30.0
21	* 50.2	* 30.1	47.8	27.1	44.0	29.9
22	51.4	30.0	47.1	26.3	43.7	29.9
23	50.8	28.0	47.3	27.7	43.2	29.8
24	50.9	29.3	47.1	29.0	42.8	30.0
25	50.7	27.7	46.8	27.1	43.2	31.0
26	48.8	28.6	47.3	28.5	41.9	30.8
27	48.6	28.8	46.5	24.3	42.3	30.8
28	48.4	28.6	46.4	26.4	42.7	30.2
29	48.4	28.9	46.2	28.1	43.7	30.8
30	47.8	28.9	46.5	28.5	43.8	31.0
31	49.1	29.7	0.0	0.0	43.7	29.8

MEANS	51.65	29.36	47.23	27.61	44.36	29.57
OBSVNS.	30	30	30	30	31	31
YRLY. MEANS.....					48.95	29.97
MAXIMUM	55.0	31.4	48.8	30.6	46.6	31.0
MINIMUM	47.8	25.5	46.1	23.0	41.9	27.6
STD. DEV.	2.19	1.15	.76	1.96	1.18	.80

AMPHITRITE POINT

48 55 16 N

125 32 17 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	45.4	28.6	46.2	27.1	42.2	26.3
2	44.3	27.7	46.3	29.3	43.4	26.8
3	44.1	28.8	46.2	27.7	* 44.2	* 28.3
4	45.0	29.0	45.7	28.4	45.0	29.8
5	45.1	29.4	44.1	27.1	42.6	26.3
6	44.6	29.1	43.7	26.9	* 43.3	* 28.1
7	45.7	29.1	43.0	26.5	44.0	30.0
8	46.3	29.5	44.4	27.3	42.3	27.6
9	46.3	28.2	44.3	26.9	* 42.7	* 27.4
10	* 46.2	* 29.3	45.8	28.9	43.1	27.3
11	46.1	30.4	45.3	26.9	43.0	28.2
12	* 0.0	* 0.0	45.6	27.6	45.9	30.4
13	* 0.0	* 0.0	45.8	28.0	45.3	28.2
14	* 0.0	* 0.0	45.9	28.5	44.9	29.5
15	* 0.0	* 0.0	45.7	28.8	44.9	29.8
16	46.1	31.0	46.0	28.8	45.1	29.3
17	45.7	30.6	45.8	27.4	45.0	29.0
18	45.8	27.1	45.9	27.1	45.1	28.9
19	45.6	27.6	45.3	27.3	44.5	29.0
20	45.4	29.3	44.9	26.4	45.0	29.3
21	45.3	29.8	45.7	26.3	45.0	29.0
22	44.6	26.9	45.7	26.8	44.9	27.7
23	46.3	30.0	45.4	24.8	44.9	25.1
24	46.3	28.8	45.8	26.8	45.2	28.8
25	45.9	28.1	45.5	30.4	44.8	27.4
26	44.4	20.3	45.3	29.1	45.4	26.8
27	45.8	27.1	45.4	29.1	44.6	26.7
28	45.7	25.8	43.6	27.2	44.9	28.1
29	45.3	20.5	0.0	0.0	45.3	29.0
30	45.7	17.8	0.0	0.0	46.3	28.6
31	46.2	23.9	0.0	0.0	46.0	28.1
MEANS	45.50	27.48	45.30	27.62	44.59	28.25
OBSVNS.	26	26	28	28	28	28
MAXIMUM	46.3	31.0	46.3	30.4	46.3	30.4
MINIMUM	44.1	17.8	43.0	24.8	42.2	25.1
STD.DEV.	.66	3.33	.86	1.18	1.09	1.30

AMPHITRITE POINT

48 55 16 N

125 32 17 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	45.6	27.7	48.4	29.5	50.8	31.1
2	46.3	29.0	48.7	29.8	50.4	31.0
3	45.7	28.4	48.5	29.9	50.7	30.8
4	46.1	28.1	48.0	30.0	51.9	30.2
5	46.3	27.4	47.7	30.3	52.7	30.7
6	47.3	28.0	49.9	29.5	51.9	30.4
7	47.2	28.2	49.3	30.0	51.7	30.6
8	46.7	28.5	49.4	30.7	51.2	30.6
9	46.9	28.6	49.4	30.8	52.2	29.7
10	46.9	28.1	49.2	31.1	51.7	30.8
11	47.1	29.9	51.3	30.7	52.9	29.4
12	47.6	28.9	51.2	29.8	53.3	30.4
13	48.7	26.9	50.6	28.5	53.9	29.0
14	48.1	28.9	50.3	28.0	54.5	29.4
15	47.8	29.3	50.0	28.5	52.8	30.7
16	47.9	28.5	50.4	29.1	53.0	30.3
17	48.4	28.5	50.4	29.4	54.5	30.0
18	47.6	28.9	50.2	28.8	54.9	29.8
19	47.4	28.6	48.9	29.4	54.2	29.7
20	47.1	28.9	47.1	30.4	* 53.6	* 28.5
21	46.7	29.4	49.6	30.0	53.0	27.1
22	47.1	28.6	48.6	31.0	54.9	27.1
23	47.8	28.6	49.3	31.1	55.2	27.6
24	49.1	28.4	49.2	31.2	53.2	26.0
25	48.8	29.9	48.9	31.4	54.0	28.5
26	49.2	29.9	50.1	30.8	54.9	28.9
27	49.1	29.7	50.7	30.8	55.2	28.9
28	48.3	29.9	50.0	31.1	55.4	29.1
29	* 48.3	* 26.4	50.4	31.4	54.6	29.7
30	48.3	23.0	50.1	31.6	54.9	29.4
31	0.0	0.0	50.4	31.2	0.0	0.0
MEANS	47.49	28.30	49.55	30.19	53.26	29.55
OBSVNS.	29	29	31	31	29	29
MAXIMUM	49.2	29.9	51.3	31.6	55.4	31.1
MINIMUM	45.6	23.0	47.1	28.0	50.4	26.0
STD. DEV.	1.00	1.38	1.01	.97	1.52	1.28

AMPHITRITE POINT

48 55 16 N

125 32 17 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	52.8	30.6	56.7	31.1	56.1	30.4
2	52.1	31.1	56.1	30.7	55.9	30.2
3	54.1	30.2	57.0	30.0	55.3	30.3
4	52.3	30.7	57.4	29.8	54.7	21.2
5	52.2	30.2	58.2	29.9	56.3	29.7
6	53.6	30.7	59.2	29.7	56.4	29.0
7	52.3	31.2	60.4	29.9	56.2	29.4
8	53.7	29.8	60.3	30.3	56.5	29.1
9	55.3	29.1	60.6	30.8	57.3	29.1
10	55.3	28.8	* 57.8	* 31.0	* 58.0	* 29.2
11	55.6	28.2	55.0	31.2	58.7	29.4
12	56.7	29.0	56.2	31.0	57.7	29.7
13	57.3	28.8	55.1	31.2	56.5	29.3
14	52.6	31.2	56.2	30.8	54.6	28.8
15	50.7	31.6	54.3	31.1	54.6	29.3
16	53.5	31.2	54.6	31.5	54.3	29.3
17	54.7	29.8	55.8	30.6	56.4	29.4
18	54.9	30.0	57.0	29.9	56.7	29.1
19	55.2	30.6	57.2	30.0	57.1	29.3
20	55.4	30.6	56.8	30.3	57.2	29.3
21	55.6	30.4	54.1	29.5	58.1	29.7
22	55.3	30.2	54.6	30.6	57.5	29.8
23	55.7	30.4	57.5	29.4	56.6	29.8
24	55.7	30.4	55.4	30.4	56.8	29.5
25	56.2	31.2	53.7	31.0	54.7	30.4
26	57.5	30.6	55.9	30.4	56.7	29.4
27	56.7	30.3	55.7	30.8	55.9	29.8
28	57.3	30.7	55.7	30.8	55.4	29.7
29	58.4	30.6	56.6	30.7	54.7	29.5
30	57.5	31.4	56.5	30.4	54.3	29.3
31	56.9	31.0	56.3	30.8	0.0	0.0
MEANS	55.00	30.34	56.54	30.49	56.18	29.25
OBSVNS.	31	31	30	30	29	29
MAXIMUM	58.7	31.6	60.6	31.5	58.7	30.4
MINIMUM	50.7	28.2	53.7	29.4	54.3	21.2
STD. DEV.	2.04	.83	1.79	.55	1.18	1.60

AMPHITRITE POINT

48 55 16 N

125 32 17 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	54.6	29.5	49.2	29.3	48.4	28.2
2	54.1	27.6	49.2	30.0	48.3	29.8
3	53.8	27.3	49.5	26.9	47.0	28.4
4	53.7	27.3	49.3	29.8	45.7	24.3
5	55.4	27.3	48.0	27.1	47.3	27.8
6	55.8	28.0	47.3	27.8	46.6	27.7
7	55.3	29.5	47.2	23.8	45.0	27.2
8	55.0	30.0	* 0.0	* 0.0	44.5	20.6
9	54.8	30.0	* 0.0	* 0.0	48.1	29.9
10	54.6	29.7	* 0.0	* 0.0	47.3	30.0
11	54.8	30.0	48.3	28.8	45.7	29.1
12	54.4	29.7	47.6	25.5	46.3	29.5
13	52.0	29.1	48.3	28.1	46.0	29.0
14	51.7	29.4	48.2	27.6	46.2	28.4
15	52.7	29.5	48.3	26.4	45.6	29.9
16	52.0	29.0	48.6	26.7	44.9	23.3
17	52.3	29.7	48.3	28.2	46.4	29.4
18	51.7	29.7	48.1	28.1	46.3	29.5
19	50.6	30.6	48.3	25.6	46.2	29.8
20	50.8	27.2	49.1	27.7	46.1	29.7
21	* 50.7	* 28.9	49.0	27.4	46.6	30.3
22	50.6	30.6	48.7	27.4	45.8	29.5
23	50.6	29.0	48.1	28.2	45.3	29.5
24	50.5	28.5	49.5	30.0	45.2	29.7
25	50.3	18.6	* 49.0	* 29.9	44.4	29.4
26	49.1	28.8	* 48.5	* 29.8	43.6	26.4
27	47.9	28.1	48.0	29.8	44.4	29.4
28	47.3	28.1	49.0	29.9	43.3	28.9
29	47.5	28.1	* 48.8	* 29.2	43.9	28.5
30	49.1	28.6	48.5	28.4	43.1	25.4
31	47.1	29.0	0.0	0.0	44.9	29.0
MEANS	52.00	28.58	48.48	27.85	45.75	28.31
OBSVNS.	30	30	24	24	31	31
YRLY. MEANS.....					50.09	28.90
MAXIMUM	55.8	30.6	49.5	30.0	48.4	30.3
MINIMUM	47.1	18.6	47.2	23.8	43.1	20.6
STD. DEV.	2.66	2.13	.65	1.58	1.38	2.21

SHERINGHAM POINT

48 22 40 N

123 55 10 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	45.8	* 0.0	45.2	* 0.0	44.4	* 0.0
2	45.6	0.0	45.4	0.0	44.2	0.0
3	45.8	0.0	45.6	0.0	44.2	0.0
4	45.7	0.0	45.0	0.0	44.5	0.0
5	45.6	0.0	45.0	0.0	44.5	0.0
6	45.2	0.0	44.9	0.0	44.3	0.0
7	45.4	0.0	44.2	0.0	44.2	0.0
8	45.4	0.0	44.3	0.0	44.1	0.0
9	45.8	0.0	44.6	0.0	44.4	0.0
10	45.4	0.0	44.8	0.0	44.2	0.0
11	45.0	0.0	44.8	0.0	44.2	0.0
12	44.5	0.0	44.9	0.0	44.4	0.0
13	43.7	0.0	44.8	0.0	44.4	0.0
14	44.2	0.0	44.9	0.0	44.6	0.0
15	* 44.5	0.0	45.2	0.0	44.4	0.0
16	44.8	0.0	45.2	0.0	45.0	0.0
17	44.8	0.0	45.0	0.0	45.0	0.0
18	45.2	0.0	45.2	0.0	44.8	0.0
19	45.2	0.0	45.0	0.0	45.4	0.0
20	45.2	0.0	44.3	0.0	45.4	0.0
21	45.4	0.0	44.7	0.0	44.2	0.0
22	45.4	0.0	44.9	0.0	44.2	0.0
23	45.0	0.0	44.9	0.0	* 44.3	0.0
24	44.9	0.0	44.8	0.0	44.4	0.0
25	44.6	0.0	* 44.6	0.0	44.7	0.0
26	44.9	0.0	44.3	0.0	44.4	0.0
27	45.0	0.0	44.7	0.0	44.6	0.0
28	45.2	0.0	44.4	* 0.0	44.4	0.0
29	45.2	0.0	0.0	0.0	44.5	0.0
30	* 45.3	0.0	0.0	0.0	44.5	0.0
31	45.4	* 0.0	0.0	0.0	44.6	* 0.0
MEANS	45.15	0.00	44.85	0.00	44.50	0.00
OBSVNS.	29	0	27	0	30	0
MAXIMUM	45.8	0.0	45.6	0.0	45.4	0.0
MINIMUM	43.7	0.0	44.2	0.0	44.1	0.0
STD.DEV.	.48	0.00	.35	0.00	.33	0.00

SHERINGHAM POINT

48 22 40 N

123 55 10 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	44.8	* 0.0	46.4	* 0.0	47.6	* 0.0
2	44.6	0.0	46.2	0.0	47.6	0.0
3	44.8	0.0	46.4	0.0	47.5	0.0
4	44.8	0.0	46.4	0.0	47.4	0.0
5	45.1	0.0	46.8	0.0	50.6	0.0
6	45.2	0.0	47.3	0.0	48.7	0.0
7	45.8	0.0	48.4	0.0	48.8	0.0
8	45.5	0.0	* 48.1	0.0	49.2	0.0
9	45.2	0.0	47.8	0.0	49.2	0.0
10	45.4	0.0	50.1	0.0	49.0	0.0
11	* 46.6	0.0	50.0	0.0	49.2	0.0
12	47.8	0.0	49.6	0.0	48.8	0.0
13	46.3	0.0	47.7	0.0	48.7	0.0
14	46.3	0.0	47.5	0.0	49.4	0.0
15	* 45.8	0.0	48.0	0.0	* 49.4	0.0
16	45.4	0.0	48.4	0.0	49.4	0.0
17	45.6	0.0	48.4	0.0	50.9	0.0
18	46.2	0.0	47.6	0.0	49.0	0.0
19	46.6	0.0	46.7	0.0	49.1	0.0
20	45.9	0.0	47.2	0.0	49.1	0.0
21	45.8	0.0	47.8	0.0	* 49.4	0.0
22	45.8	0.0	47.9	0.0	49.6	0.0
23	45.6	0.0	48.7	0.0	49.3	0.0
24	45.8	0.0	49.2	0.0	49.8	0.0
25	45.8	0.0	49.0	0.0	49.5	0.0
26	45.6	0.0	47.8	0.0	49.5	0.0
27	45.8	0.0	48.2	0.0	49.5	0.0
28	46.4	0.0	48.0	0.0	49.5	0.0
29	46.4	0.0	47.8	0.0	49.2	0.0
30	46.2	* 0.0	47.8	0.0	49.5	* 0.0
31	0.0	0.0	47.8	* 0.0	0.0	0.0
MEANS	45.73	0.00	47.90	0.00	49.09	0.00
OBSVNS.	28	0	30	0	28	0
MAXIMUM	47.8	0.0	50.1	0.0	50.9	0.0
MINIMUM	44.6	0.0	46.2	0.0	47.4	0.0
STD.DEV.	.67	0.00	1.02	0.00	.81	0.00

SHERINGHAM POINT

48 22 40 N

123 55 10 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	49.0	* 0.0	54.7	* 0.0	52.2	* 0.0
2	50.1	0.0	53.8	0.0	52.0	0.0
3	50.1	0.0	52.0	0.0	52.2	0.0
4	50.8	0.0	52.1	0.0	52.1	0.0
5	50.5	0.0	52.0	0.0	52.2	0.0
6	50.2	0.0	52.0	0.0	52.2	0.0
7	50.3	0.0	52.6	0.0	51.4	0.0
8	50.3	0.0	52.4	0.0	50.4	0.0
9	50.3	0.0	* 52.6	0.0	50.4	0.0
10	50.0	0.0	52.7	0.0	50.4	0.0
11	50.2	0.0	52.7	0.0	50.2	0.0
12	50.1	0.0	52.0	0.0	50.4	0.0
13	45.8	0.0	52.4	0.0	50.2	0.0
14	48.5	0.0	52.2	0.0	50.2	0.0
15	48.5	0.0	52.2	0.0	50.4	0.0
16	50.0	0.0	52.1	0.0	50.8	0.0
17	50.1	0.0	52.5	0.0	50.7	0.0
18	51.2	0.0	51.8	0.0	50.6	0.0
19	55.0	0.0	51.8	0.0	50.7	0.0
20	53.5	0.0	51.5	0.0	50.7	0.0
21	52.0	0.0	51.6	0.0	51.4	0.0
22	52.0	0.0	51.6	0.0	51.4	0.0
23	51.5	0.0	51.4	0.0	51.7	0.0
24	51.5	0.0	51.2	0.0	51.4	0.0
25	53.0	0.0	51.6	0.0	51.0	0.0
26	53.0	0.0	51.2	0.0	51.2	0.0
27	52.5	0.0	51.4	0.0	50.7	0.0
28	53.0	0.0	51.4	0.0	50.8	0.0
29	52.0	0.0	51.2	0.0	50.4	0.0
30	51.7	0.0	51.5	0.0	50.5	* 0.0
31	52.3	* 0.0	51.2	* 0.0	0.0	0.0
MEANS	50.94	0.00	52.03	0.00	51.03	0.00
OBSVNS.	31	0	30	0	30	0
MAXIMUM	55.0	0.0	54.7	0.0	52.2	0.0
MINIMUM	45.8	0.0	51.2	0.0	50.2	0.0
STD.DEV.	1.77	0.00	.77	0.00	.70	0.00

SHERINGHAM POINT

48 22 40 N

123 55 10 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	50.0	* 0.0	47.3	* 0.0	46.9	* 0.0
2	50.1	0.0	46.9	0.0	46.8	0.0
3	49.8	0.0	46.9	0.0	46.8	0.0
4	49.2	0.0	46.8	0.0	46.7	0.0
5	49.0	0.0	46.8	0.0	46.7	0.0
6	49.4	0.0	46.9	0.0	46.8	0.0
7	49.4	0.0	46.8	0.0	46.7	0.0
8	49.2	0.0	46.9	0.0	46.7	0.0
9	49.2	0.0	46.7	0.0	46.7	0.0
10	49.1	0.0	46.6	0.0	46.4	0.0
11	49.1	0.0	46.7	0.0	45.6	0.0
12	49.7	0.0	46.9	0.0	45.3	0.0
13	49.5	0.0	48.6	0.0	44.7	0.0
14	48.3	0.0	47.0	0.0	45.3	0.0
15	48.4	0.0	47.6	0.0	45.0	0.0
16	48.4	0.0	47.2	0.0	45.2	0.0
17	48.7	0.0	46.9	0.0	45.3	0.0
18	48.8	0.0	46.8	0.0	45.1	0.0
19	48.7	0.0	46.8	0.0	45.1	0.0
20	48.4	0.0	47.0	0.0	45.1	0.0
21	48.2	0.0	47.0	0.0	45.2	0.0
22	48.4	0.0	46.8	0.0	44.8	0.0
23	48.4	0.0	46.9	0.0	45.0	0.0
24	48.2	0.0	46.8	0.0	45.0	0.0
25	48.3	0.0	46.8	0.0	44.9	0.0
26	48.4	0.0	* 46.6	0.0	44.8	0.0
27	48.4	0.0	46.3	0.0	45.0	0.0
28	48.4	0.0	46.3	0.0	43.5	0.0
29	48.5	0.0	46.7	0.0	43.8	0.0
30	47.4	0.0	47.0	* 0.0	44.1	0.0
31	47.2	* 0.0	0.0	0.0	44.4	* 0.0
MEANS	48.78	0.00	46.92	0.00	45.46	0.00
OBSVNS.	31	0	29	0	31	0
YRLY. MEANS.....					47.74	0.00
MAXIMUM	50.1	0.0	48.6	0.0	46.9	0.0
MINIMUM	47.2	0.0	46.3	0.0	43.5	0.0
STD. DEV.	.68	0.00	.41	0.00	.98	0.00

RACE ROCKS

48 17 57 N

123 31 48 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	45.4	31.2	44.9	31.1	43.8	32.0
2	45.6	31.0	44.5	31.8	44.1	31.5
3	45.3	31.2	44.3	31.2	43.8	31.4
4	44.8	30.8	44.2	31.1	43.8	31.1
5	44.7	31.1	44.0	31.0	43.7	31.0
6	44.6	31.5	43.9	30.7	44.0	31.1
7	44.9	31.0	* 44.0	* 30.9	44.0	31.1
8	45.1	30.6	44.1	31.0	43.8	31.2
9	45.1	30.6	44.3	31.4	43.2	31.1
10	45.0	30.6	44.8	31.0	44.0	31.2
11	44.4	31.4	44.9	31.1	* 43.7	* 0.0
12	44.2	31.5	44.8	31.0	43.4	* 0.0
13	44.3	31.1	45.0	31.0	44.0	* 0.0
14	44.2	31.1	45.0	31.1	44.4	* 0.0
15	44.7	31.6	44.7	31.1	44.0	31.4
16	44.6	31.6	44.8	31.9	44.2	30.8
17	44.8	31.9	44.4	30.7	44.1	31.1
18	44.8	31.5	44.5	30.6	44.2	30.7
19	45.0	31.4	44.5	30.6	43.8	30.8
20	44.5	31.4	44.4	30.3	44.1	30.7
21	44.3	31.4	44.3	30.6	44.2	31.0
22	44.6	31.8	44.5	30.7	44.0	30.3
23	44.5	31.1	44.8	30.8	44.3	30.3
24	44.7	31.1	44.7	31.1	44.5	30.7
25	44.4	30.7	44.5	31.2	44.5	31.2
26	44.7	30.6	44.4	31.2	44.2	31.2
27	44.8	32.3	44.6	31.2	44.5	31.2
28	44.9	30.7	44.2	31.6	44.6	31.4
29	44.8	31.0	0.0	0.0	44.5	31.2
30	45.1	31.1	0.0	0.0	* 44.6	* 31.4
31	45.1	32.7	0.0	0.0	44.7	31.5
MEANS	44.77	31.25	44.52	31.04	44.08	31.08
OBSVNS.	31	31	27	27	29	26
MAXIMUM	45.6	32.7	45.0	31.9	44.7	32.0
MINIMUM	44.2	30.6	43.9	30.3	43.2	30.3
STD. DEV.	.34	.49	.30	.36	.35	.37

RACE ROCKS

48 17 57 N

123 31 48 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	44.5	31.1	47.0	31.0	47.8	30.8
2	44.7	31.1	47.1	31.0	48.2	30.2
3	44.8	31.0	46.7	30.8	49.0	30.3
4	45.0	30.7	47.0	30.8	49.2	30.0
5	45.0	30.8	46.8	31.0	48.0	30.3
6	45.4	31.0	48.0	30.7	49.0	29.9
7	45.8	31.2	48.7	30.8	49.7	30.3
8	45.4	31.4	47.8	31.0	49.4	30.6
9	45.2	30.8	48.2	30.6	48.3	31.2
10	45.0	30.8	48.3	30.7	47.7	31.2
11	45.7	30.7	48.5	30.8	47.6	31.5
12	45.6	30.6	47.0	31.4	47.8	31.4
13	45.9	30.8	47.1	31.0	47.6	31.6
14	* 45.6	* 30.8	47.2	31.2	48.2	31.6
15	45.2	30.8	47.0	31.4	48.0	31.2
16	45.2	30.8	46.8	31.1	48.2	31.8
17	45.8	30.8	46.6	31.2	48.4	31.5
18	45.6	30.8	46.9	31.0	48.1	31.4
19	45.5	30.4	46.6	31.0	48.8	31.1
20	45.7	30.6	47.4	31.1	48.6	31.5
21	45.5	30.4	48.0	31.6	49.3	31.8
22	45.6	30.2	47.5	31.0	48.2	31.4
23	46.0	30.8	48.2	31.5	48.6	31.4
24	45.8	31.1	47.2	30.8	47.7	31.6
25	46.4	31.2	48.0	31.4	48.0	31.6
26	46.6	31.5	47.7	31.5	48.3	31.4
27	46.5	31.4	47.6	31.4	48.6	31.4
28	46.7	31.1	47.2	31.0	49.2	31.4
29	46.5	31.4	47.2	31.0	49.9	31.1
30	46.3	31.2	47.6	31.2	49.3	31.1
31	0.0	0.0	47.9	31.0	0.0	0.0
MEANS	45.62	30.91	47.45	31.06	48.49	31.12
OBSVNS.	29	29	31	31	30	30
MAXIMUM	46.7	31.5	48.7	31.6	49.9	31.8
MINIMUM	44.5	30.2	46.6	30.6	47.6	29.9
STD.DEV.	.59	.32	.59	.26	.65	.55

RACE ROCKS

48 17 57 N

123 31 48 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	49.1	31.1	51.9	29.9	51.7	30.0
2	49.7	31.0	52.3	29.5	51.7	30.3
3	49.4	30.8	50.8	29.9	51.8	30.4
4	49.6	30.8	50.5	30.4	50.5	30.8
5	49.9	30.3	51.5	30.3	51.0	31.5
6	50.8	30.8	51.2	30.8	50.7	31.2
7	50.0	30.6	50.8	31.1	49.3	31.6
8	49.5	30.4	50.2	31.2	49.5	31.8
9	49.2	31.1	50.3	30.8	50.0	31.8
10	48.3	31.1	50.3	31.2	49.7	31.4
11	48.8	31.4	50.1	31.1	50.3	31.0
12	49.1	31.4	50.5	30.7	50.6	30.7
13	49.5	31.6	51.0	30.4	50.5	31.1
14	49.3	31.1	50.8	30.3	50.8	31.6
15	49.9	31.1	51.1	30.2	51.0	31.0
16	49.6	30.2	51.3	30.3	50.6	30.8
17	50.2	30.7	50.7	30.7	51.5	30.7
18	50.6	30.7	51.6	30.8	51.7	30.4
19	51.4	30.7	51.2	30.7	51.8	30.2
20	50.7	30.8	51.0	30.8	51.6	30.2
21	50.3	31.2	50.6	30.8	51.8	30.0
22	50.3	31.2	51.1	31.0	50.6	30.8
23	50.1	31.4	51.2	31.0	51.4	30.3
24	49.7	31.1	51.1	31.1	51.2	30.4
25	50.2	31.0	51.1	31.1	50.5	30.0
26	51.2	30.6	51.9	31.4	50.3	30.2
27	51.3	30.7	51.4	30.4	50.2	30.7
28	51.0	30.4	51.3	30.4	50.5	30.3
29	51.8	30.0	53.0	30.2	50.3	30.2
30	52.0	29.8	52.0	30.0	50.2	30.6
31	51.2	30.0	53.0	29.9	0.0	0.0
MEANS	50.12	30.81	51.19	30.59	50.78	30.73
OBSVNS.	31	31	31	31	30	30
MAXIMUM	52.0	31.6	53.0	31.4	51.8	31.8
MINIMUM	48.3	29.8	50.1	29.5	49.3	30.0
STD. DEV.	.90	.45	.72	.47	.72	.56

RACE ROCKS

48 17 57 N

123 31 48 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	50.1	31.8	47.4	31.2	46.4	32.0
2	50.0	31.0	47.3	31.5	46.5	31.8
3	49.3	31.6	47.2	31.1	46.5	31.4
4	49.1	31.2	47.2	31.5	46.4	31.9
5	49.0	31.5	47.1	32.1	46.6	31.6
6	49.5	31.1	* 47.0	* 31.9	46.2	31.6
7	48.8	31.5	* 46.8	* 31.7	45.6	32.0
8	49.2	31.4	46.7	31.5	45.5	31.9
9	49.3	31.2	46.8	31.9	45.7	31.2
10	49.1	31.5	47.1	31.8	45.8	31.1
11	49.4	31.2	47.0	31.6	45.6	31.4
12	49.5	31.2	47.2	31.1	* 45.4	* 31.4
13	49.6	31.2	47.4	31.6	45.1	31.5
14	49.3	31.0	47.2	31.8	45.2	30.7
15	49.5	31.8	47.1	31.9	45.1	31.0
16	49.6	31.2	47.2	31.5	45.4	30.4
17	49.1	31.2	47.3	31.8	45.6	30.4
18	49.0	31.0	47.0	31.8	45.3	30.6
19	49.2	30.3	46.9	32.0	45.4	30.6
20	48.7	31.5	47.2	31.0	45.3	30.6
21	48.5	31.8	47.0	31.6	45.4	30.3
22	48.5	31.6	46.6	31.4	45.5	30.4
23	48.4	31.0	46.6	31.5	44.9	31.0
24	48.5	31.1	46.7	31.4	44.7	30.8
25	48.0	31.2	46.5	31.4	* 44.2	* 30.8
26	47.9	31.8	46.6	31.4	43.7	30.7
27	47.7	31.6	46.5	31.5	* 43.8	* 30.6
28	47.5	31.5	46.5	31.6	43.8	30.6
29	47.5	31.5	46.6	31.6	43.9	30.3
30	47.0	31.0	46.6	31.4	43.9	30.7
31	47.3	31.0	0.0	0.0	44.6	31.1
MEANS	48.81	31.21	46.95	31.55	45.34	31.06
OBSVNS.	31	31	28	28	28	28
YRLY. MEANS.....					47.41	31.03
MAXIMUM	50.1	31.8	47.4	32.1	46.6	32.0
MINIMUM	47.0	30.3	46.5	31.0	43.7	30.3
STD. DEV.	.81	.31	.30	.27	.82	.56

CAPE MUDGE

49 59 56 N

125 11 38 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	43.5	29.3	45.5	28.5	* 42.1	* 29.3
2	44.0	28.9	45.0	29.1	* 43.3	* 29.5
3	43.6	29.4	* 45.0	* 29.3	44.5	29.7
4	44.4	29.4	45.0	29.5	44.9	28.5
5	45.2	29.5	44.9	29.0	44.2	28.8
6	45.9	29.7	45.0	29.3	* 45.0	* 28.9
7	45.6	29.4	45.4	29.4	45.9	29.0
8	46.0	29.5	45.5	29.5	* 45.4	* 29.0
9	45.6	29.5	* 45.5	* 29.4	* 44.9	* 28.9
10	43.0	29.4	45.5	29.3	44.5	28.9
11	42.5	29.0	45.2	29.1	* 45.0	* 28.8
12	43.0	29.5	44.9	29.1	45.4	28.8
13	37.9	28.8	45.4	29.0	45.2	27.6
14	41.0	29.1	* 45.2	* 29.2	45.0	28.1
15	* 42.5	* 29.3	45.1	29.3	45.0	28.9
16	43.9	29.5	45.0	28.9	45.0	28.9
17	44.8	29.5	43.9	29.3	43.6	28.6
18	* 44.6	* 29.2	* 44.4	* 29.2	44.1	28.9
19	44.5	28.8	45.0	29.1	44.5	28.9
20	45.0	29.1	45.1	29.0	43.0	28.4
21	44.5	28.9	44.6	28.6	45.0	28.8
22	44.0	29.1	45.6	29.1	45.2	28.9
23	45.0	29.1	* 45.4	* 29.1	46.5	28.9
24	45.2	29.0	* 45.2	* 29.0	47.5	29.1
25	43.5	28.9	45.1	29.0	50.0	29.1
26	44.8	29.3	* 43.7	* 29.0	47.2	28.6
27	45.8	29.7	* 42.3	* 29.1	46.0	28.2
28	* 45.6	* 29.6	41.0	29.1	46.5	29.0
29	* 45.3	* 29.5	0.0	0.0	45.1	29.0
30	45.1	29.5	0.0	0.0	44.1	29.1
31	45.1	28.6	0.0	0.0	44.9	29.4
MEANS	44.16	29.24	44.88	29.11	45.31	28.80
OBSVNS.	27	27	20	20	25	25
MAXIMUM	46.0	29.7	45.6	29.5	50.0	29.7
MINIMUM	37.9	28.6	41.0	28.5	43.0	27.6
STD.DEV.	1.71	.30	.99	.26	1.43	.42

CAPE MUDGE

49 59 56 N

125 11 38 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	44.5	28.1	47.6	29.1	51.9	29.3
2	* 45.2	* 28.6	51.0	29.4	53.5	29.5
3	46.0	29.0	51.2	29.4	51.5	29.4
4	45.6	28.9	54.4	30.0	50.5	29.3
5	47.0	29.1	49.9	28.6	57.7	28.8
6	48.2	29.1	51.7	29.4	55.6	27.7
7	47.9	28.8	* 52.3	* 29.4	57.7	27.7
8	48.1	29.0	52.9	29.4	56.2	27.6
9	* 47.3	* 28.9	51.7	29.1	58.6	27.8
10	46.5	28.8	56.0	29.1	57.1	27.3
11	48.0	29.1	52.1	29.4	55.9	26.8
12	48.1	29.1	50.0	29.4	54.4	25.9
13	48.0	29.0	47.0	29.4	56.2	23.5
14	46.1	29.1	46.9	29.1	56.3	23.9
15	45.0	29.3	47.6	29.1	57.0	24.0
16	45.4	28.9	47.9	28.9	57.0	24.0
17	45.2	29.0	50.3	28.8	53.5	28.0
18	47.0	29.1	49.7	29.1	57.0	25.8
19	46.9	28.6	52.2	29.7	56.0	26.1
20	46.9	29.0	53.3	28.9	* 56.5	* 25.8
21	* 46.7	* 28.9	54.6	28.9	57.0	25.4
22	46.5	28.8	54.5	29.0	55.6	25.6
23	53.5	29.4	56.0	29.1	58.0	25.2
24	50.4	29.4	54.6	28.8	* 57.2	* 25.4
25	52.4	29.3	52.8	29.0	56.5	25.5
26	* 49.7	* 29.3	53.5	29.5	57.5	24.6
27	47.0	29.3	53.5	29.0	53.6	24.8
28	47.1	29.4	48.3	29.1	54.1	25.4
29	47.0	29.7	48.6	28.9	57.4	25.0
30	47.0	29.5	49.7	29.3	57.9	23.7
31	0.0	0.0	51.4	29.0	0.0	0.0
MEANS	47.36	29.07	51.36	29.16	55.76	26.34
OBSVNS.	26	26	30	30	28	28
MAXIMUM	53.5	29.7	56.0	30.0	58.6	29.5
MINIMUM	44.5	28.1	46.9	28.6	50.5	23.5
STD.DEV.	2.07	.32	2.68	.29	2.11	1.91

CAPE MUDGE

49 59 56 N

125 11 38 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	60.0	25.1	68.2	25.2	57.7	26.1
2	60.5	25.2	69.9	25.9	64.6	25.5
3	60.9	25.8	* 68.2	* 25.6	57.0	25.8
4	59.0	25.1	66.5	25.4	* 57.0	* 26.8
5	58.6	24.7	65.1	25.4	57.0	27.7
6	57.5	28.9	64.5	25.2	57.0	27.3
7	60.0	26.3	64.9	26.0	55.5	25.1
8	56.5	26.7	56.5	27.6	56.0	25.8
9	54.1	26.7	59.4	25.1	56.4	26.3
10	54.2	26.9	54.6	27.3	52.9	27.1
11	57.6	26.4	56.5	26.4	57.6	26.1
12	62.0	24.8	55.9	27.2	58.0	26.1
13	61.3	24.2	55.4	26.5	59.9	26.4
14	59.0	24.2	* 56.4	* 26.6	59.6	26.5
15	61.9	26.0	57.4	26.8	60.0	26.4
16	58.5	26.9	67.4	25.0	59.1	26.1
17	58.0	27.4	61.6	25.4	57.5	26.8
18	62.8	27.4	61.9	25.5	54.9	25.8
19	61.1	26.8	60.5	25.2	52.5	27.2
20	60.9	26.5	* 60.7	* 25.3	54.4	26.5
21	59.0	27.7	60.9	25.4	52.2	27.2
22	54.1	28.5	64.1	25.1	52.9	26.1
23	53.0	28.8	60.5	24.7	50.6	27.4
24	52.9	28.9	66.5	24.4	52.8	26.7
25	55.5	28.9	* 64.2	* 24.5	52.0	27.1
26	55.9	28.5	* 61.9	* 24.6	53.6	27.3
27	60.0	26.7	59.6	24.6	53.6	26.9
28	52.4	28.4	60.3	25.0	51.0	27.2
29	60.0	26.5	56.1	26.3	55.2	26.8
30	66.0	25.6	57.5	25.1	57.4	26.5
31	69.0	25.0	57.5	24.3	0.0	0.0
MEANS	58.78	26.63	61.12	25.62	55.82	26.58
OBSVNS.	31	31	26	26	29	29
MAXIMUM	69.0	28.9	69.9	27.6	64.6	27.7
MINIMUM	52.4	24.2	54.6	24.3	50.6	25.5
STD. DEV.	3.76	1.45	4.44	.90	3.20	.58

CAPE MUDGE

49 59 56 N

125 11 38 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	57.4	26.5	49.0	28.6	* 47.0	* 29.0
2	53.5	26.7	47.2	27.2	47.0	29.0
3	52.4	26.8	47.6	29.1	* 44.5	* 28.1
4	55.5	26.9	46.8	28.8	42.0	27.3
5	55.3	27.7	47.2	29.0	45.1	28.1
6	51.2	27.8	46.0	28.8	45.0	28.6
7	51.5	27.6	45.5	28.2	44.8	28.6
8	51.5	27.3	* 46.2	* 28.2	* 45.0	* 28.6
9	52.4	26.9	* 46.9	* 28.1	* 45.3	* 28.6
10	52.3	27.1	47.6	28.1	45.6	28.6
11	55.7	27.2	48.0	27.8	45.6	28.6
12	53.6	26.1	47.6	28.9	46.0	27.7
13	55.1	27.4	47.6	28.5	* 45.4	* 28.2
14	52.0	27.8	47.2	28.4	44.8	28.6
15	50.9	29.0	47.5	28.5	45.5	28.6
16	52.4	28.5	47.6	28.5	44.2	28.5
17	51.0	27.8	47.5	29.0	41.5	27.6
18	49.2	28.2	47.0	29.0	* 43.0	* 28.0
19	49.0	29.1	47.4	28.9	44.5	28.4
20	47.2	28.4	47.6	29.1	44.2	28.5
21	* 47.8	* 28.4	47.2	28.9	43.9	28.5
22	48.5	28.4	47.2	28.9	43.7	28.2
23	47.5	28.6	* 47.2	* 28.1	* 0.0	* 0.0
24	48.1	28.4	47.1	27.4	* 0.0	* 0.0
25	* 48.0	* 28.4	* 47.2	* 27.7	* 0.0	* 0.0
26	48.0	28.4	* 47.3	* 28.1	* 0.0	* 0.0
27	47.5	28.1	47.4	28.5	* 0.0	* 0.0
28	47.8	28.0	46.7	28.5	* 0.0	* 0.0
29	45.2	28.1	47.5	28.2	* 0.0	* 0.0
30	47.7	28.4	47.1	29.0	* 0.0	* 0.0
31	* 48.4	* 28.5	0.0	0.0	42.5	28.6
MEANS	51.05	27.76	47.28	28.55	44.46	28.35
OBSVNS.	28	28	25	25	17	17
YRLY. MEANS.....					51.13	27.87
MAXIMUM	57.4	29.1	49.0	29.1	47.0	29.0
MINIMUM	45.2	26.1	45.5	27.2	41.5	27.3
STD. DEV.	3.13	.77	.64	.51	1.44	.44

SISTERS ISLAND

49 29 13 N

124 26 00 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	44.7	29.8	44.2	29.5	43.0	28.9
2	44.6	29.7	43.7	29.5	43.5	29.3
3	44.3	29.7	43.8	29.5	42.7	29.0
4	44.3	29.7	43.6	29.1	42.8	29.1
5	44.4	29.7	43.5	29.4	43.2	29.1
6	44.0	29.7	43.1	29.3	43.5	29.4
7	43.9	29.4	43.2	29.1	43.7	29.4
8	44.4	29.5	43.2	29.3	43.6	29.7
9	44.3	29.5	43.6	29.4	44.0	29.5
10	43.7	29.5	43.7	29.4	44.2	29.8
11	44.3	29.5	43.5	29.1	43.6	29.5
12	44.3	29.7	43.5	28.8	43.8	29.4
13	43.9	29.8	43.8	28.9	43.8	29.7
14	43.8	29.8	44.0	29.1	43.9	29.3
15	* 43.9	* 29.8	43.5	29.1	43.6	29.1
16	* 44.0	* 29.9	43.0	29.0	43.5	29.1
17	44.0	29.9	43.7	28.8	43.2	29.3
18	43.8	29.9	43.8	28.2	43.4	29.3
19	43.8	30.0	43.4	28.1	43.0	28.9
20	43.3	29.8	43.5	27.7	44.0	29.0
21	43.8	29.8	43.5	27.6	43.0	28.9
22	43.7	30.0	44.0	28.5	43.8	28.9
23	43.5	29.8	44.3	29.3	44.5	29.0
24	43.4	29.8	44.0	28.5	44.5	28.9
25	43.8	29.8	43.5	28.9	45.4	29.1
26	43.9	29.8	43.0	28.1	44.6	29.0
27	44.3	29.8	* 43.2	* 28.6	44.4	29.1
28	44.0	29.9	43.3	29.1	44.3	29.1
29	43.8	29.8	0.0	0.0	44.0	29.1
30	44.1	29.9	0.0	0.0	44.2	29.1
31	44.4	29.8	0.0	0.0	43.4	29.3
MEANS	44.02	29.75	43.59	28.90	43.75	29.20
OBSVNS.	29	29	27	27	31	31
MAXIMUM	44.7	30.0	44.3	29.5	45.4	29.8
MINIMUM	43.3	29.4	43.0	27.6	42.7	28.9
STD. DEV.	.35	.15	.34	.55	.60	.25

SISTERS ISLAND

49 29 13 N

124 26 00 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	44.5	29.1	49.0	29.3	56.5	28.4
2	44.5	29.0	48.7	29.0	56.6	28.0
3	44.8	29.1	50.2	29.1	56.9	26.8
4	45.8	29.0	50.7	29.3	55.8	26.9
5	46.0	29.0	50.5	29.3	56.4	26.7
6	46.5	29.1	52.9	29.5	54.9	27.2
7	46.3	29.1	56.2	29.7	56.3	20.9
8	45.4	29.3	51.0	29.4	57.4	20.4
9	45.0	29.1	51.8	29.5	57.8	18.3
10	45.6	29.1	54.8	29.7	56.5	22.0
11	47.0	29.0	55.6	29.7	56.7	20.3
12	46.2	28.9	51.6	29.5	57.0	21.0
13	47.1	28.6	48.2	29.4	56.3	22.5
14	48.0	28.9	50.0	29.7	56.3	23.0
15	45.5	28.6	* 50.2	* 28.9	57.2	19.2
16	45.5	29.3	* 50.4	* 28.0	58.1	22.2
17	45.1	29.3	50.5	27.1	59.4	20.8
18	46.4	29.3	51.5	26.8	60.5	21.3
19	46.8	29.1	52.1	26.8	59.1	22.7
20	47.0	29.1	53.1	27.8	57.3	25.4
21	47.4	29.5	56.0	27.2	58.1	21.0
22	47.4	29.0	56.5	26.9	59.0	20.3
23	50.8	29.0	55.9	27.2	58.5	20.0
24	49.5	29.0	54.9	27.4	56.5	22.9
25	48.9	29.0	54.5	27.6	54.2	25.5
26	49.9	29.3	54.3	27.6	54.0	20.4
27	48.5	29.3	54.3	27.6	54.8	20.9
28	48.3	29.1	54.5	28.1	56.0	21.2
29	48.0	29.1	54.2	27.8	56.4	20.3
30	48.5	29.0	53.0	28.2	58.0	20.6
31	0.0	0.0	54.0	28.2	0.0	0.0
MEANS	46.87	29.08	52.78	28.43	56.95	22.57
OBSVNS.	30	30	29	29	30	30
MAXIMUM	50.8	29.5	56.5	29.7	60.5	28.4
MINIMUM	44.5	28.6	48.2	26.8	54.0	18.3
STD. DEV.	1.65	.19	2.43	1.06	1.49	2.87

SISTERS ISLAND

49 29 13 N

124 26 00 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	57.8	22.2	63.5	25.0	60.6	25.2
2	57.6	23.7	64.0	23.9	60.3	25.6
3	62.0	22.7	63.8	20.8	59.5	25.1
4	59.0	23.1	64.0	22.2	57.5	25.9
5	58.3	24.0	64.5	22.0	58.7	25.5
6	58.9	24.4	65.5	19.9	59.5	25.8
7	60.3	24.3	65.5	23.7	57.6	25.1
8	60.5	23.5	68.5	22.1	58.2	24.2
9	59.8	23.7	68.1	22.6	57.2	24.8
10	58.3	22.1	71.0	22.0	57.0	25.1
11	60.1	22.2	68.4	23.4	57.8	25.2
12	59.7	22.9	66.7	24.2	56.5	25.5
13	61.4	21.0	68.1	23.4	56.8	25.6
14	61.4	20.6	65.1	24.6	55.9	26.1
15	61.1	21.8	63.5	25.2	57.0	25.5
16	61.5	22.7	64.0	23.9	57.5	25.8
17	63.6	23.8	66.1	20.0	57.6	25.8
18	65.6	23.3	66.0	20.4	58.4	26.3
19	65.4	23.7	64.9	21.7	57.3	25.9
20	65.6	24.4	63.6	25.2	58.1	26.5
21	66.8	23.8	60.2	25.2	58.2	26.3
22	64.0	25.9	61.1	23.9	58.9	26.3
23	64.6	25.1	61.5	22.4	57.6	25.9
24	63.0	27.2	60.8	22.2	56.0	26.4
25	63.5	26.1	62.3	24.2	56.6	26.4
26	65.5	25.5	61.4	25.0	56.7	26.7
27	70.0	25.0	60.9	25.0	56.5	26.7
28	69.0	24.6	61.5	24.4	56.1	26.7
29	70.0	23.3	63.8	24.4	55.5	26.4
30	69.5	23.4	62.4	24.8	56.3	26.5
31	70.0	22.9	62.9	24.6	0.0	0.0
MEANS	63.03	23.64	64.31	23.30	57.58	25.83
OBSVNS.	31	31	31	31	30	30
MAXIMUM	70.0	27.2	71.0	25.2	60.6	26.7
MINIMUM	57.6	20.6	60.2	19.9	55.5	24.2
STD. DEV.	3.91	1.46	2.65	1.62	1.28	.63

SISTERS ISLAND

49 29 13 N 124 26 00 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	54.8	26.8	48.3	28.8	46.3	28.2
2	53.6	27.6	48.0	28.6	46.4	28.4
3	52.0	28.1	48.0	28.9	46.0	28.8
4	52.5	28.2	47.9	28.8	46.0	29.0
5	55.0	26.5	47.3	28.6	45.8	28.8
6	57.0	24.4	47.2	28.9	45.5	28.6
7	55.4	24.0	47.2	28.6	45.4	28.5
8	54.1	24.6	47.5	28.8	45.0	28.6
9	53.4	25.5	48.0	29.0	45.0	28.5
10	54.0	25.8	48.1	29.0	45.0	28.8
11	53.7	26.9	47.5	28.2	45.0	29.0
12	52.9	27.2	47.2	27.8	45.0	28.8
13	53.0	27.1	47.3	28.2	44.4	28.9
14	52.3	26.1	47.2	28.2	44.9	28.8
15	52.1	26.9	47.0	28.4	44.7	28.6
16	51.7	28.0	46.9	28.2	44.6	28.9
17	51.4	26.5	47.0	28.4	43.6	28.8
18	51.6	26.9	46.8	28.4	44.2	28.9
19	50.7	28.1	46.7	28.1	43.8	28.8
20	50.2	28.2	47.0	28.4	43.8	28.8
21	50.0	28.5	47.3	28.8	43.7	29.0
22	49.4	28.8	46.8	28.8	43.2	28.6
23	49.3	28.4	46.8	28.5	44.0	28.9
24	49.8	28.4	46.9	28.6	43.5	28.9
25	49.8	27.8	47.0	28.5	43.7	28.9
26	49.1	27.8	47.2	28.5	42.4	29.0
27	48.5	28.2	47.0	27.8	42.9	29.0
28	48.5	28.4	46.5	27.6	42.6	28.9
29	48.0	28.2	46.7	28.0	42.2	29.4
30	48.0	28.4	46.5	28.1	42.5	28.9
31	47.5	28.4	0.0	0.0	43.5	29.1
MEANS	51.59	27.18	47.23	28.45	44.34	28.81
OBSVNS.	31	31	30	30	31	31
YRLY. MEANS.....					51.44	27.06
MAXIMUM	57.0	28.8	48.3	29.0	46.4	29.4
MINIMUM	47.5	24.0	46.5	27.6	42.2	28.2
STD. DEV.	2.48	1.29	.49	.37	1.19	.23

CHROME ISLAND

49 28 20 N

124 40 57 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	44.7	29.8	44.0	28.5	41.2	28.5
2	43.9	29.4	41.5	21.4	* 41.9	* 28.6
3	42.7	29.1	43.2	27.3	42.7	28.8
4	43.0	29.3	42.3	28.6	41.5	28.6
5	43.2	29.4	42.5	28.2	42.2	29.3
6	43.2	29.3	41.9	28.2	43.5	29.3
7	43.4	29.3	42.5	28.5	44.1	29.3
8	44.3	29.3	42.8	28.9	43.7	29.0
9	44.4	29.5	43.3	29.0	44.2	29.3
10	43.8	29.5	43.9	29.1	44.3	29.3
11	43.2	29.3	44.0	29.3	44.4	29.3
12	41.0	29.1	44.0	29.3	44.9	29.4
13	42.0	29.3	43.9	29.3	44.3	28.1
14	42.0	29.3	44.0	29.3	44.0	29.0
15	43.0	29.3	43.8	29.3	43.3	29.3
16	42.8	29.4	44.0	29.5	43.0	28.5
17	41.7	28.9	42.3	24.0	40.9	26.5
18	43.7	29.4	43.5	28.5	42.1	28.1
19	43.7	29.3	43.0	29.0	42.5	28.6
20	42.6	29.3	42.1	27.3	42.5	27.6
21	43.0	29.3	43.2	28.5	42.7	27.3
22	42.5	29.0	43.8	28.6	43.0	27.7
23	42.4	28.8	43.9	28.8	44.1	28.6
24	42.5	28.8	44.2	28.8	44.5	28.8
25	42.3	28.9	43.8	29.0	44.5	29.0
26	43.4	29.3	43.8	28.6	44.4	28.8
27	44.0	29.1	42.7	28.5	44.3	28.8
28	44.0	29.1	42.8	28.6	44.2	29.3
29	44.0	29.5	0.0	0.0	43.2	29.0
30	44.0	29.5	0.0	0.0	43.5	28.8
31	44.0	29.3	0.0	0.0	43.7	28.2
MEANS	43.17	29.26	43.24	28.28	43.38	28.67
OBSVNS.	31	31	28	28	30	30
MAXIMUM	44.7	29.8	44.2	29.5	44.9	29.4
MINIMUM	41.0	28.8	41.5	21.4	40.9	26.5
STD. DEV.	.87	.22	.77	1.70	1.06	.69

CHROME ISLAND

49 28 20 N

124 40 57 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	44.0	29.0	47.0	28.8	56.4	27.4
2	44.2	29.0	48.4	25.9	58.2	27.8
3	44.1	28.9	50.5	28.0	57.2	27.7
4	46.5	28.4	52.4	26.8	55.0	28.0
5	47.0	28.4	51.0	26.8	56.5	28.0
6	45.7	29.0	55.4	27.4	54.7	28.6
7	45.0	29.3	54.5	28.4	53.0	29.1
8	45.1	29.1	54.0	27.2	53.6	28.9
9	44.5	29.3	53.2	29.0	53.4	28.9
10	44.9	29.4	54.0	28.4	55.3	29.0
11	45.8	29.4	55.7	28.0	51.7	28.6
12	46.4	29.0	51.0	28.6	53.4	27.8
13	47.0	28.9	48.5	29.0	52.3	28.1
14	46.8	28.9	47.3	29.0	53.0	28.2
15	45.0	29.3	48.0	29.0	54.1	28.2
16	45.4	28.6	49.0	28.8	52.4	24.3
17	44.8	28.5	49.1	26.1	60.2	22.6
18	46.3	28.2	50.2	28.6	59.5	23.4
19	47.0	28.9	51.5	28.6	58.2	24.7
20	46.8	28.9	51.7	28.4	55.5	28.6
21	47.7	28.3	53.6	27.3	54.8	28.2
22	46.1	28.8	55.1	27.4	56.2	26.7
23	47.1	29.0	56.5	27.6	54.3	27.7
24	48.0	29.0	54.3	27.7	51.8	28.6
25	49.8	29.0	53.4	28.2	52.8	28.0
26	50.0	29.1	53.3	28.1	54.0	27.2
27	49.5	28.1	54.4	27.1	54.2	25.2
28	48.9	28.5	55.0	27.1	55.4	25.2
29	47.5	27.8	56.2	26.1	56.2	24.8
30	46.4	28.8	55.2	25.5	57.0	24.7
31	0.0	0.0	55.7	26.8	0.0	0.0
MEANS	46.44	28.84	52.42	27.73	55.01	27.14
OBSVNS.	30	30	31	31	30	30
MAXIMUM	50.0	29.4	56.5	29.0	60.2	29.1
MINIMUM	44.0	27.8	47.0	25.5	51.7	22.6
STD.DEV.	1.66	.39	2.87	1.01	2.22	1.84

CHROME ISLAND

49 28 20 N

124 40 57 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	53.8	25.5	63.0	26.3	55.5	27.6
2	56.3	25.1	63.7	26.7	60.0	26.3
3	60.5	23.5	* 61.4	* 27.4	56.2	27.3
4	60.0	24.0	59.2	28.0	54.5	27.8
5	56.9	25.0	60.0	27.6	56.2	27.6
6	58.2	24.6	64.2	25.9	58.0	26.8
7	59.2	24.3	64.4	26.0	56.8	27.2
8	57.9	25.1	63.8	25.1	55.5	27.8
9	57.5	25.0	65.0	24.6	54.5	27.2
10	55.4	25.2	64.4	25.1	54.0	27.7
11	54.6	26.1	66.4	24.6	51.0	27.6
12	55.1	26.0	68.0	24.3	53.6	28.0
13	55.2	26.4	64.0	25.4	55.0	27.6
14	58.9	26.1	60.8	26.3	56.0	27.2
15	63.1	23.5	61.4	26.3	56.0	26.7
16	58.8	23.5	63.6	26.3	57.2	26.4
17	65.8	23.4	62.2	26.5	56.1	25.9
18	67.5	22.7	61.0	26.7	57.3	27.4
19	65.5	23.7	61.5	26.5	57.5	26.4
20	69.1	23.3	61.0	27.2	58.2	26.4
21	70.0	23.8	56.0	27.3	58.5	26.4
22	68.0	23.8	56.8	27.4	58.0	26.4
23	66.1	24.3	55.5	28.1	56.4	27.1
24	65.3	24.3	55.8	27.8	54.0	27.7
25	66.5	24.4	57.0	27.3	56.0	26.8
26	66.4	24.4	60.4	26.0	56.5	26.9
27	64.4	25.4	61.0	25.9	55.4	27.4
28	67.4	25.0	62.4	25.2	53.4	27.6
29	68.2	25.2	63.0	25.6	54.0	27.2
30	69.5	25.6	61.0	25.9	54.3	27.4
31	70.0	25.2	59.5	26.4	0.0	0.0
MEANS	62.29	24.63	61.53	26.28	55.85	27.13
OBSVNS.	31	31	30	30	30	30
MAXIMUM	70.0	26.4	68.0	28.1	60.0	28.0
MINIMUM	53.8	22.7	55.5	24.3	51.0	25.9
STD. DEV.	5.39	.95	3.13	1.02	1.85	.56

CHROME ISLAND

49 28 20 N

124 40 57 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	53.0	27.8	48.5	28.5	46.7	28.1
2	52.1	28.1	48.4	28.4	46.4	28.2
3	50.8	28.5	48.5	28.5	46.5	28.6
4	56.0	26.8	48.0	28.9	46.3	28.5
5	51.7	28.5	47.8	28.4	46.5	28.6
6	53.0	28.1	47.5	28.5	46.0	28.4
7	52.8	27.7	47.5	28.6	45.0	28.1
8	52.0	27.6	47.5	28.8	45.6	28.4
9	52.4	27.4	47.6	28.9	45.7	28.6
10	53.0	27.4	48.1	28.9	44.8	28.5
11	53.8	26.5	47.8	27.3	45.2	28.5
12	53.0	27.6	47.5	25.9	45.2	28.8
13	52.5	27.6	47.7	27.6	44.2	28.5
14	52.5	27.3	46.6	23.7	44.8	28.6
15	54.0	27.2	46.7	24.6	44.0	28.5
16	55.0	27.6	46.7	25.9	44.4	28.4
17	52.2	27.7	45.5	26.5	44.1	28.2
18	52.0	27.4	47.0	27.7	43.6	28.1
19	51.4	28.1	47.8	28.5	43.3	28.4
20	50.4	28.6	47.8	28.5	44.0	28.5
21	49.7	28.8	47.8	28.5	44.1	28.6
22	49.5	29.0	47.0	28.5	44.4	28.9
23	49.0	28.9	47.0	28.4	44.4	28.6
24	49.0	29.1	47.5	28.8	43.2	28.5
25	48.9	29.0	47.0	29.0	43.0	28.6
26	48.0	28.9	47.5	29.0	42.5	28.4
27	48.8	28.0	47.0	28.9	42.6	28.5
28	47.2	28.5	47.2	28.9	42.5	28.6
29	48.4	28.4	46.9	29.3	43.0	28.6
30	48.5	28.1	46.6	27.6	43.0	28.6
31	48.4	28.2	0.0	0.0	42.8	28.6
MEANS	51.26	27.95	47.40	27.98	44.45	28.48
OBSVNS.	31	31	30	30	31	31
YRLY. MEANS.....					50.58	27.69
MAXIMUM	56.0	29.1	48.5	29.3	46.7	28.9
MINIMUM	47.2	26.5	45.5	23.7	42.5	28.1
STD. DEV.	2.25	.72	.65	1.36	1.32	.19

ENTRANCE ISLAND

49 12 34 N

123 48 27 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	44.0	28.9	43.7	27.8	41.8	27.8
2	43.9	28.8	42.7	25.5	43.1	29.0
3	43.2	28.8	42.7	26.7	43.1	28.9
4	42.5	28.5	43.7	28.9	41.9	28.6
5	43.2	28.0	43.0	28.5	42.7	28.9
6	42.6	28.5	42.5	28.5	43.8	29.1
7	44.0	28.8	42.8	28.4	45.2	29.4
8	43.5	28.5	42.2	28.2	44.0	29.1
9	43.5	28.5	43.3	28.9	45.0	29.3
10	44.0	28.8	45.0	29.1	* 45.1	* 29.3
11	42.5	29.0	44.9	29.1	* 45.3	* 29.4
12	42.5	29.1	45.0	29.0	45.5	29.4
13	42.0	29.0	45.4	29.4	45.0	29.1
14	43.5	29.3	45.4	29.5	* 44.8	* 29.1
15	44.0	29.3	45.0	29.1	44.5	29.1
16	45.0	28.8	43.0	26.8	44.2	28.9
17	42.5	28.2	43.5	28.4	43.0	28.9
18	44.5	28.5	44.2	29.0	42.8	28.6
19	45.0	27.1	44.1	28.9	42.9	28.8
20	42.0	29.0	43.2	29.4	43.5	28.9
21	43.8	28.8	43.3	28.0	43.5	28.9
22	43.8	28.8	44.3	28.9	43.5	29.3
23	43.3	28.5	44.5	29.1	44.5	29.1
24	42.9	28.4	44.2	28.9	45.1	29.0
25	42.9	28.5	43.8	28.9	45.3	29.6
26	43.5	28.9	43.2	28.1	44.3	28.8
27	44.0	29.0	* 42.9	* 28.3	44.7	29.0
28	44.3	29.1	42.6	28.6	44.8	29.1
29	43.5	28.8	0.0	0.0	45.0	29.1
30	43.6	28.6	0.0	0.0	44.9	28.9
31	43.2	28.2	0.0	0.0	45.0	28.8
MEANS	43.46	28.56	43.77	28.50	44.02	28.94
OBSVNS.	31	31	27	27	28	28
MAXIMUM	45.0	29.3	45.4	29.5	45.5	29.4
MINIMUM	42.0	25.0	42.5	25.5	41.8	27.8
STD. DEV.	.74	.79	.92	.91	1.06	.31

ENTRANCE ISLAND

49 12 34 N

123 48 27 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	45.0	28.9	* 48.5	* 28.4	55.6	26.3
2	44.9	29.0	49.6	28.1	54.5	27.4
3	44.7	28.5	49.2	29.1	54.3	27.6
4	46.7	28.1	49.0	29.4	52.5	28.2
5	47.5	28.4	51.0	27.1	54.8	27.7
6	47.3	28.6	51.1	28.0	51.7	28.1
7	46.2	28.8	54.4	27.6	54.4	27.6
8	45.2	29.1	51.5	27.8	56.4	25.0
9	45.0	29.4	51.7	28.4	54.9	27.8
10	45.1	29.5	53.2	26.8	53.4	27.7
11	46.0	29.4	53.3	26.3	51.0	28.6
12	47.2	28.9	51.2	28.2	52.6	27.4
13	47.2	28.2	49.9	28.1	* 54.5	* 26.6
14	46.2	27.6	50.1	28.1	56.4	25.9
15	46.6	* 27.6	48.2	28.6	55.3	25.9
16	46.6	27.6	51.1	23.5	59.3	15.0
17	46.2	27.4	51.0	20.8	61.3	14.2
18	47.1	27.4	51.8	23.9	60.2	16.9
19	47.4	28.1	51.7	26.1	56.6	25.0
20	47.0	28.8	53.5	23.9	55.0	27.3
21	48.0	28.4	54.4	23.8	58.3	25.8
22	46.0	28.8	55.2	24.2	59.5	17.8
23	47.8	29.0	55.0	25.4	59.8	16.7
24	48.2	29.0	55.1	24.7	51.9	27.6
25	48.2	29.1	54.8	26.0	51.7	27.8
26	53.2	28.1	57.1	22.9	54.4	25.2
27	48.9	28.5	56.1	25.2	55.6	21.0
28	48.2	28.8	58.2	24.6	56.3	20.5
29	47.2	28.9	55.7	25.1	55.3	22.0
30	47.5	28.6	57.1	24.6	57.5	21.3
31	0.0	0.0	55.3	26.4	0.0	0.0
MEANS	46.94	28.58	52.88	26.09	55.53	24.32
OBSVNS.	30	29	30	30	29	29
MAXIMUM	53.2	29.5	58.2	29.4	61.3	28.6
MINIMUM	44.7	27.4	48.2	20.8	51.0	14.2
STD. DEV.	1.64	.58	2.70	2.12	2.74	4.44

ENTRANCE ISLAND

49 12 34 N

123 48 27 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	58.0	21.2	56.8	27.4	56.0	27.3
2	58.5	20.8	57.0	27.7	61.0	25.5
3	52.8	20.1	61.5	26.0	56.7	27.3
4	59.5	20.3	58.2	27.6	53.5	28.0
5	58.4	23.0	63.6	21.3	56.5	27.3
6	60.8	19.5	67.0	16.3	54.0	27.6
7	62.4	21.7	66.2	16.9	58.5	22.1
8	61.1	22.1	67.4	19.5	57.2	28.0
9	59.5	23.3	69.9	19.9	55.4	26.9
10	54.0	26.5	69.6	19.9	56.8	25.1
11	54.1	27.1	68.8	20.5	54.5	27.4
12	59.1	25.4	69.1	21.0	55.6	26.9
13	62.0	20.9	66.0	22.9	57.7	24.7
14	61.6	19.4	59.5	25.9	57.5	23.4
15	63.0	16.6	59.3	26.4	57.2	24.4
16	62.2	20.9	67.0	20.9	57.3	24.6
17	64.4	21.6	64.5	22.6	57.0	24.7
18	64.2	22.7	66.4	21.3	58.0	24.7
19	64.4	22.9	65.2	21.3	57.1	25.0
20	64.0	23.5	57.9	27.3	57.2	25.5
21	64.7	23.5	55.0	27.3	59.2	25.0
22	64.8	23.9	55.8	27.6	60.7	25.2
23	64.5	24.0	55.8	27.4	58.3	25.4
24	64.5	23.1	60.5	25.9	55.6	26.3
25	65.6	22.5	63.0	19.6	56.2	25.7
26	67.0	23.3	62.3	20.9	56.0	26.8
27	65.1	23.4	62.0	21.8	56.2	26.7
28	66.1	23.5	62.6	23.5	52.3	27.7
29	65.7	24.7	63.7	22.9	52.9	27.6
30	70.6	23.8	62.8	24.0	54.8	26.8
31	66.4	25.5	60.0	25.6	0.0	0.0
MEANS	62.56	22.60	62.72	23.20	56.58	26.02
CESVNS.	31	31	31	31	30	30
MAXIMUM	70.6	27.1	69.9	27.7	61.0	28.0
MINIMUM	54.0	16.6	55.0	16.3	52.3	22.1
STD.DEV.	3.66	2.21	4.42	3.36	2.00	1.47

ENTRANCE ISLAND

49 12 34 N

123 48 27 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	54.2	26.9	48.8	27.4	46.2	27.3
2	51.8	28.0	47.7	28.0	46.8	28.0
3	52.4	28.9	48.3	28.5	46.4	28.5
4	50.8	28.8	47.9	28.4	46.4	28.4
5	53.7	27.3	47.0	27.3	46.2	28.6
6	55.8	29.5	46.7	26.9	45.7	28.0
7	54.3	29.2	46.6	27.4	44.8	27.6
8	54.4	23.9	47.7	28.2	45.7	28.1
9	54.4	24.8	48.2	29.3	45.3	28.4
10	54.9	24.7	48.6	29.5	44.8	28.0
11	55.2	29.5	47.7	26.3	44.0	28.2
12	51.6	27.6	46.6	24.0	45.3	28.6
13	52.6	27.2	47.5	27.3	44.0	28.1
14	52.7	29.8	47.3	27.4	44.4	28.1
15	52.3	26.5	46.6	26.3	43.8	28.1
16	52.6	26.4	46.8	26.7	44.7	28.2
17	52.2	26.4	46.3	26.5	44.3	28.1
18	51.8	26.8	46.5	27.1	44.1	28.2
19	50.7	28.0	47.4	28.4	43.4	27.6
20	50.9	27.8	47.5	28.2	43.2	27.8
21	49.4	28.6	47.1	27.8	43.6	28.2
22	48.9	29.1	45.0	26.7	43.8	28.2
23	49.4	28.1	46.6	26.9	44.3	28.4
24	48.6	27.3	47.2	28.1	45.0	28.6
25	49.1	28.4	46.8	28.4	42.8	28.0
26	49.0	28.2	47.6	29.3	43.0	28.2
27	48.3	27.2	47.2	28.1	41.5	27.6
28	48.8	26.9	47.3	29.3	42.2	28.0
29	48.2	26.8	46.5	27.1	43.8	28.6
30	48.3	27.8	45.8	25.9	44.0	28.6
31	48.0	27.7	0.0	0.0	43.6	28.1
MEANS	51.45	27.04	47.16	27.56	44.42	28.14
OBSVNS.	31	31	30	30	31	31
YRLY. MEANS.....					51.07	26.59
MAXIMUM	55.8	29.1	48.8	29.5	46.8	28.6
MINIMUM	48.0	23.9	45.0	24.0	41.5	27.3
STD. DEV.	2.42	1.33	.81	1.18	1.28	.33

DEPARTURE BAY

49 12 38 N

123 57 17 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	40.4	29.4	45.0	25.8	32.0	27.4
2	40.4	29.4	44.0	28.6	* 36.0	* 27.6
3	41.0	29.3	42.0	26.7	40.0	27.8
4	40.4	30.2	44.0	28.9	38.0	28.5
5	40.5	29.4	43.0	28.4	* 39.8	* 28.3
6	40.4	28.9	42.5	28.5	42.5	28.1
7	40.5	28.1	42.9	28.5	42.5	23.9
8	44.0	28.6	43.0	28.5	43.0	28.5
9	44.4	28.8	41.9	27.3	42.5	24.3
10	43.9	29.4	44.4	29.3	44.0	27.6
11	37.0	28.0	44.3	28.4	43.5	27.1
12	33.6	28.8	44.5	27.4	43.5	26.4
13	34.0	28.5	44.5	28.1	45.0	26.1
14	33.6	28.5	45.0	21.0	45.2	24.8
15	40.4	28.8	44.5	26.8	46.2	27.8
16	40.4	28.8	44.0	27.7	42.0	27.7
17	40.5	26.7	43.0	27.4	41.0	28.4
18	43.0	28.9	43.0	21.7	42.5	28.4
19	42.8	28.5	44.0	28.8	43.0	27.8
20	43.0	28.8	43.0	28.4	43.5	28.2
21	42.5	29.4	43.5	25.2	43.5	28.9
22	42.0	21.7	43.8	26.3	43.2	27.2
23	42.5	27.6	44.5	29.3	46.0	25.2
24	43.1	28.2	43.0	28.4	45.8	29.0
25	42.3	27.3	42.0	27.7	46.0	30.7
26	43.8	28.4	35.4	27.3	44.0	29.8
27	43.5	27.7	34.0	26.3	44.8	28.6
28	43.7	28.8	34.0	26.8	47.0	26.1
29	43.5	28.8	0.0	0.0	45.0	25.9
30	44.0	28.4	0.0	0.0	47.0	29.5
31	45.0	26.3	0.0	0.0	0.0	0.0
MEANS	41.29	28.14	42.60	27.27	43.29	27.67
OBSVNS.	31	31	28	28	28	28
MAXIMUM	45.0	30.2	45.0	29.3	47.0	30.7
MINIMUM	33.6	21.7	34.0	21.0	32.0	24.3
STD.DEV.	3.05	1.56	3.01	1.97	3.02	1.51

DEPARTURE BAY

49 12 38 N

123 57 17 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	45.0	28.2	47.5	28.1	55.0	25.5
2	* 45.0	* 28.6	48.5	29.7	57.5	26.8
3	45.0	29.0	52.0	26.3	57.5	25.1
4	47.0	29.0	53.0	26.9	57.5	26.4
5	49.0	28.9	50.5	27.1	57.5	28.5
6	49.0	28.8	53.0	28.5	57.5	27.6
7	47.0	27.3	55.5	23.5	55.5	27.4
8	47.0	28.0	54.5	29.0	57.0	25.0
9	45.0	28.8	53.5	29.3	55.0	25.4
10	46.0	27.3	57.0	27.8	55.8	25.0
11	47.0	28.0	54.5	27.2	54.0	27.4
12	49.0	27.8	55.0	28.6	53.2	27.8
13	46.0	28.0	53.0	26.0	54.0	28.0
14	48.0	28.4	50.0	27.2	54.0	28.9
15	47.0	28.8	49.5	26.5	54.5	17.1
16	46.0	26.3	49.5	28.5	57.5	19.9
17	48.0	27.6	50.5	25.0	62.5	16.6
18	47.0	27.7	* 50.5	* 26.0	60.5	18.3
19	47.0	22.1	50.5	26.9	58.0	22.1
20	50.0	25.5	54.0	25.0	58.5	23.8
21	50.0	27.8	51.0	24.2	58.0	26.8
22	48.0	27.3	59.0	25.0	60.0	18.3
23	50.5	28.5	57.0	25.0	58.0	21.2
24	53.0	29.1	56.0	25.5	58.0	17.8
25	54.0	28.4	55.0	* 26.8	54.2	21.0
26	* 51.5	* 28.8	55.5	28.1	52.0	27.1
27	49.0	29.3	57.0	24.2	55.5	20.3
28	49.0	26.9	57.0	24.3	57.4	18.4
29	48.0	25.1	57.5	24.8	55.8	22.1
30	48.5	24.7	54.4	24.3	57.0	25.1
31	0.0	0.0	56.5	25.1	0.0	0.0
MEANS	48.04	27.09	53.58	26.47	56.61	23.69
OBSVNS.	28	28	30	29	30	30
MAXIMUM	54.0	29.3	59.0	29.7	62.5	28.9
MINIMUM	45.0	22.1	47.5	23.5	52.0	16.6
STD.DEV.	2.16	1.82	3.04	1.79	2.28	3.89

DEPARTURE DAY

49 12 38 N

123 57 17 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	57.1	22.7	64.2	26.1	57.5	26.9
2	60.2	20.9	59.9	26.7	58.0	29.4
3	61.2	21.0	61.8	25.8	57.0	27.6
4	61.6	20.9	62.2	26.0	58.0	26.9
5	58.1	23.5	65.7	20.0	54.0	28.0
6	59.5	21.4	67.5	16.9	61.0	25.0
7	62.7	22.7	62.3	22.2	61.0	22.4
8	62.4	21.0	64.3	21.2	57.5	24.3
9	62.5	21.4	66.2	20.4	55.5	25.5
10	58.0	24.7	68.6	20.4	57.0	25.2
11	53.3	26.3	69.0	21.2	55.0	27.8
12	53.1	26.8	68.5	21.8	55.0	28.4
13	59.0	23.1	66.5	22.7	58.0	25.5
14	51.5	18.3	64.5	23.8	59.5	23.8
15	54.4	19.6	59.0	27.8	60.0	25.0
16	67.0	20.3	65.5	20.5	62.0	24.6
17	65.4	20.8	65.5	21.4	58.5	23.9
18	66.1	22.1	67.0	24.4	59.0	25.5
19	66.8	22.4	67.5	23.1	59.0	26.0
20	58.3	23.1	64.8	23.7	59.4	25.6
21	67.1	23.5	61.8	26.1	60.0	27.7
22	66.6	23.3	58.0	28.4	60.0	27.4
23	67.0	23.9	56.2	* 26.6	58.5	27.2
24	64.0	23.2	57.0	* 24.7	55.5	26.5
25	64.4	23.6	60.5	22.9	56.5	27.4
26	65.6	23.5	61.5	20.6	56.0	26.7
27	68.2	23.8	61.3	22.1	56.5	27.2
28	67.6	23.3	65.5	22.5	54.0	27.1
29	67.4	24.4	65.0	23.5	54.0	27.8
30	72.1	23.3	65.0	24.4	56.0	28.2
31	68.6	24.7	63.5	26.0	0.0	0.0
MEANS	63.45	22.76	63.74	23.19	57.63	26.42
OBSVNS.	31	31	31	29	30	30
MAXIMUM	72.1	26.8	69.0	28.4	62.0	29.4
MINIMUM	53.1	18.3	56.2	16.9	54.0	22.4
STD. DEV.	4.58	1.91	3.42	2.67	2.21	1.59

DEPARTURE BAY

49 12 38 N

123 57 17 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	54.5	27.6	48.0	27.3	45.0	25.4
2	54.0	27.8	47.8	27.2	45.5	27.2
3	53.0	27.7	47.3	27.1	45.5	27.2
4	53.2	28.0	* 46.4	* 27.4	44.5	26.5
5	55.0	28.5	45.5	27.7	44.5	26.5
6	56.0	27.4	45.5	27.3	44.0	27.8
7	56.0	26.1	45.0	26.5	43.0	26.4
8	55.0	25.8	46.0	27.2	41.5	26.3
9	54.0	25.8	47.0	26.8	41.5	26.3
10	53.5	26.3	47.5	27.1	45.0	28.1
11	54.5	25.8	48.0	26.7	44.0	27.6
12	53.0	26.3	46.5	21.6	44.0	27.4
13	53.5	28.6	47.0	19.9	42.8	26.4
14	52.0	27.7	47.0	27.8	43.0	26.9
15	52.0	27.3	47.2	27.8	44.0	27.8
16	55.0	27.1	47.0	27.6	43.0	27.2
17	52.0	26.8	46.5	27.2	44.0	27.4
18	51.8	27.7	46.0	26.1	43.5	28.0
19	52.0	27.1	45.5	25.9	43.5	27.2
20	52.0	28.6	46.5	25.8	40.0	27.6
21	49.5	28.0	47.5	26.8	42.0	25.0
22	48.5	27.8	45.5	27.8	42.0	26.8
23	48.2	27.1	45.0	26.9	41.0	26.3
24	48.0	27.6	46.0	25.8	* 41.8	28.2
25	48.0	27.8	46.5	27.1	42.5	28.2
26	44.0	28.8	46.3	25.1	40.0	28.2
27	45.0	27.2	47.0	27.8	43.0	28.2
28	42.5	26.9	45.0	21.7	42.0	27.6
29	47.0	26.7	46.4	26.1	42.5	27.8
30	46.2	26.4	46.5	25.8	42.0	27.8
31	47.2	28.9	0.0	0.0	42.5	26.4
MEANS	51.16	27.33	46.50	26.26	43.04	27.15
OBSVNS.	31	31	29	29	30	31
YRLY. MEANS.....					51.07	26.11
MAXIMUM	56.0	28.9	48.0	27.8	45.5	28.2
MINIMUM	42.5	25.8	45.0	19.9	40.0	25.0
STD. DEV.	3.72	.89	.89	1.95	1.46	.84

PORTER PASS HW

49 00 48 N

123 35 05 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	45.2	29.4	44.5	29.0	42.8	28.4
2	44.2	29.4	43.8	27.7	42.0	28.4
3	43.6	28.8	43.3	28.0	43.2	28.5
4	44.1	28.8	43.5	28.2	43.6	28.5
5	44.4	28.8	43.5	28.0	43.2	28.4
6	44.0	28.9	43.2	28.1	43.7	28.8
7	44.8	29.1	44.8	28.6	44.2	28.9
8	44.6	28.9	44.8	28.6	43.8	29.5
9	44.5	28.1	44.2	28.5	44.2	29.3
10	44.7	29.0	44.8	28.9	44.2	28.6
11	43.0	29.0	44.5	28.9	43.7	28.8
12	43.8	29.0	44.3	28.9	44.6	28.9
13	43.6	28.9	44.6	28.6	44.5	28.8
14	43.8	28.9	45.0	28.9	44.2	28.9
15	44.8	29.1	44.6	28.6	44.2	28.8
16	44.4	29.1	44.0	28.2	* 43.8 *	28.7
17	44.2	29.1	43.8	28.4	43.3	28.6
18	43.5	28.9	44.3	28.6	44.5	28.8
19	43.5	28.8	44.3	28.5	43.2	28.2
20	43.0	28.5	43.2	26.7	44.3	28.1
21	43.3	28.6	44.8	28.8	43.9	28.2
22	42.7	28.5	44.8	28.8	43.8	28.2
23	43.6	29.0	44.8	29.0	45.7	28.6
24	43.6	28.9	44.7	29.1	46.0	28.8
25	42.9	28.6	44.6	29.0	45.7	28.8
26	44.7	29.3	44.0	28.6	43.9	28.4
27	44.5	29.0	43.6	28.6	45.0	28.8
28	44.8	29.0	43.2	28.4	44.9	28.8
29	44.7	29.1	0.0	0.0	45.0	28.8
30	44.8	29.1	0.0	0.0	44.6	28.8
31	44.7	29.0	0.0	0.0	44.3	28.5
MEANS	44.08	28.92	44.20	28.51	44.14	28.63
OBSVNS.	31	31	28	28	30	30
MAXIMUM	45.2	29.4	45.0	29.1	46.0	29.3
MINIMUM	42.7	28.1	43.2	26.7	42.0	28.1
STD.DEV.	.68	.27	.59	.50	.87	.27

FORLIER PASS HW

49 00 48 N

123 35 05 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	44.2	28.4	47.3	28.1	53.5	26.7
2	44.3	28.5	48.8	24.8	55.0	26.9
3	45.3	28.4	50.2	26.5	56.5	26.4
4	45.6	28.4	48.7	28.4	* 54.1	* 27.0
5	46.7	28.2	48.8	28.1	51.8	27.7
6	45.8	28.8	49.7	28.0	54.7	26.9
7	46.2	28.6	49.3	28.1	54.7	27.2
8	46.0	28.8	50.7	27.8	53.7	27.3
9	45.3	28.8	50.5	28.0	51.8	27.6
10	45.2	28.8	51.1	28.0	51.7	27.8
11	46.2	28.9	51.2	28.1	52.0	28.0
12	46.0	28.8	49.6	27.8	50.8	28.1
13	45.8	28.8	49.5	28.0	50.6	28.1
14	45.6	28.5	50.0	28.0	53.0	27.7
15	45.4	28.5	49.1	28.2	50.6	27.4
16	45.2	28.5	49.5	28.1	52.5	27.1
17	45.1	27.7	49.6	22.7	56.2	20.1
18	46.8	27.4	49.0	28.0	52.2	26.9
19	46.7	26.7	49.7	27.4	52.2	27.7
20	46.8	28.2	50.1	22.7	53.2	27.6
21	47.3	28.2	50.8	26.9	55.0	27.4
22	46.2	28.4	50.7	27.3	54.5	24.2
23	46.9	28.4	51.5	27.6	53.0	27.7
24	47.2	28.2	51.0	27.4	49.8	27.6
25	47.0	28.2	50.4	27.7	53.2	27.2
26	48.2	28.4	51.7	24.3	53.7	27.4
27	47.4	28.5	54.2	25.4	51.6	27.2
28	47.3	28.6	53.0	27.3	51.5	25.9
29	47.2	28.6	52.8	26.3	52.2	28.0
30	47.0	28.8	54.0	24.3	53.7	27.2
31	0.0	0.0	54.2	26.5	0.0	0.0
MEANS	46.20	28.40	50.54	26.96	52.93	27.00
OBSVNS.	30	30	31	31	29	29
MAXIMUM	48.2	28.9	54.2	28.4	56.5	28.1
MINIMUM	44.2	26.7	47.3	22.7	49.8	20.1
STD. DEV.	.97	.46	1.68	1.61	1.68	1.54

PORLIER PASS HW

49 00 48 N

123 35 05 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	53.7	27.7	63.8	24.2	58.4	25.4
2	56.8	21.0	62.9	25.0	57.8	25.4
3	* 0.0	* 0.0	60.0	26.9	55.2	27.3
4	* 0.0	* 0.0	60.2	26.9	54.5	27.6
5	* 0.0	* 0.0	59.8	26.8	58.7	27.3
6	* 0.0	* 0.0	54.8	27.3	56.7	27.3
7	* 0.0	* 0.0	56.3	26.8	54.5	27.4
8	* 0.0	* 0.0	58.7	23.9	54.0	27.2
9	* 0.0	* 0.0	57.6	25.0	54.5	27.7
10	* 0.0	* 0.0	57.8	26.0	54.1	27.3
11	* 0.0	* 0.0	57.5	24.6	54.8	27.4
12	* 0.0	* 0.0	59.0	23.8	54.2	27.4
13	* 0.0	* 0.0	59.6	24.7	54.7	28.1
14	* 0.0	* 0.0	58.0	26.9	54.3	27.3
15	* 0.0	* 0.0	61.4	24.6	55.5	26.4
16	* 0.0	* 0.0	60.0	25.2	55.4	27.2
17	* 0.0	* 0.0	58.2	25.2	53.7	27.4
18	* 0.0	* 0.0	58.0	25.2	53.8	27.3
19	* 0.0	* 0.0	56.5	26.8	54.2	27.3
20	* 0.0	* 0.0	58.2	26.7	55.2	26.9
21	* 0.0	* 0.0	57.8	27.3	55.0	26.8
22	* 0.0	* 0.0	58.0	27.3	55.3	26.9
23	* 0.0	* 0.0	55.7	27.4	54.0	26.8
24	* 0.0	* 0.0	58.8	27.4	54.2	27.1
25	* 0.0	* 0.0	55.4	27.2	54.7	26.9
26	60.6	23.9	58.7	21.6	54.3	26.9
27	59.8	23.7	56.9	23.9	53.8	27.2
28	61.0	23.9	57.6	24.7	52.6	27.2
29	66.2	23.9	57.8	25.4	53.2	27.2
30	62.0	23.3	58.8	26.5	54.3	27.3
31	62.6	23.9	58.2	27.1	0.0	0.0
MEANS	60.34	23.91	58.45	25.75	54.85	27.10
OBSVNS.	8	8	31	31	30	30
MAXIMUM	66.2	27.7	63.8	27.4	58.7	28.1
MINIMUM	53.7	21.0	54.8	21.6	52.6	25.4
STD. DEV.	3.77	1.82	1.95	1.45	1.40	.56

Ju;y 3 - 25: Relief lightkeeper did not take oceanographic observations.

FORLIER PASS HW

49 00 48 N

123 35 05 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	54.3	27.4	49.4	28.2	46.8	27.7
2	52.4	27.7	48.5	28.4	* 46.8	* 28.1
3	52.2	28.1	48.3	28.5	46.8	28.5
4	53.2	28.0	48.0	27.6	46.2	27.7
5	53.6	28.0	47.5	27.8	46.2	28.2
6	52.8	28.5	47.4	28.0	45.8	28.4
7	51.7	27.8	47.3	28.2	46.2	28.0
8	50.2	28.4	47.7	28.4	45.7	28.2
9	51.0	27.7	47.7	28.4	44.8	27.7
10	51.8	27.2	48.2	28.4	44.2	27.6
11	51.7	27.3	48.0	28.4	44.2	27.7
12	52.0	27.7	48.0	27.6	44.0	27.4
13	51.7	27.8	48.3	28.1	43.8	27.1
14	51.2	27.8	47.4	27.6	45.0	27.6
15	52.2	28.0	47.7	27.6	42.8	26.9
16	51.7	27.6	47.5	27.6	44.7	28.0
17	51.6	27.7	47.2	27.7	44.5	27.8
18	50.7	28.2	47.2	27.7	44.7	27.8
19	50.8	28.1	47.8	28.1	43.8	28.1
20	50.8	28.1	48.0	28.6	44.2	28.1
21	50.2	28.4	47.7	28.5	44.3	28.4
22	50.3	28.4	46.7	28.5	43.8	28.2
23	50.0	28.5	47.0	28.5	44.2	28.4
24	49.8	28.5	47.3	28.4	44.0	28.5
25	49.8	28.6	46.8	28.5	42.6	28.0
26	49.3	28.4	47.7	28.6	43.7	28.2
27	49.0	28.4	47.5	28.4	42.5	27.7
28	49.3	28.2	46.8	28.4	43.5	28.1
29	48.4	28.0	46.8	27.2	42.8	27.7
30	48.4	28.1	46.7	28.0	43.8	28.4
31	48.4	28.2	0.0	0.0	44.8	28.5
MEANS	50.98	28.03	47.60	28.13	44.48	27.95
OBSVNS.	31	31	30	30	30	30
YRLY. MEANS.....					49.26	27.66
MAXIMUM	54.3	28.6	49.4	28.6	46.8	28.5
MINIMUM	48.4	27.2	46.7	27.2	42.5	26.9
STD. DEV.	1.53	.37	.61	.39	1.19	.41

PORLIER PASS LA

49 00 48 N

123 35 05 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	46.9	29.4	45.5	29.3	43.8	28.2
2	45.3	29.3	43.8	26.9	44.7	28.8
3	44.5	28.5	44.5	28.5	44.6	28.9
4	44.8	28.9	43.7	28.4	44.7	28.8
5	44.7	29.0	43.2	28.4	44.3	28.8
6	45.0	29.1	44.5	28.6	44.4	28.9
7	45.0	29.0	44.2	28.9	45.2	29.3
8	43.8	28.6	43.7	28.4	44.2	29.1
9	43.3	27.6	44.2	28.6	44.3	29.4
10	45.5	29.3	45.2	29.0	44.7	29.4
11	43.0	29.0	44.8	29.0	45.1	29.5
12	44.7	29.3	44.9	29.1	45.8	29.5
13	44.3	29.0	45.2	29.1	46.1	29.5
14	43.2	28.6	45.4	29.1	45.5	29.4
15	45.3	29.4	45.8	29.3	45.7	29.4
16	45.0	29.5	45.8	29.3	45.0	29.3
17	43.5	28.5	44.7	27.1	44.3	28.1
18	43.4	28.5	45.0	28.5	* 44.8	* 28.1
19	44.8	28.9	43.8	26.5	45.2	28.1
20	44.0	28.8	44.7	28.6	44.7	28.1
21	42.8	28.6	44.0	28.8	44.1	28.1
22	* 43.5	* 28.8	44.8	29.0	43.0	28.4
23	44.3	29.0	45.0	29.1	44.7	28.6
24	44.4	29.0	45.0	29.1	44.8	28.9
25	43.2	28.6	44.7	29.0	44.7	28.4
26	44.7	29.1	43.7	28.2	43.8	28.8
27	45.7	29.4	44.2	28.8	44.2	28.6
28	45.6	29.3	43.2	28.2	44.8	29.0
29	45.6	29.4	0.0	0.0	45.3	29.1
30	45.7	29.5	0.0	0.0	45.8	29.0
31	45.8	29.4	0.0	0.0	46.2	29.6

MEANS	44.59	28.98	44.54	28.60	44.79	28.87
OBSVNS.	30	30	28	28	30	30

MAXIMUM	46.9	29.5	45.8	29.3	46.2	29.5
MINIMUM	42.8	27.6	43.2	26.5	43.0	28.1

STD.DEV.	1.00	.42	.72	.71	.72	.47
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FORLIER PASS LW

49 00 48 N

123 35 05 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	45.4	28.6	49.7	23.3	53.0	27.3
2	45.2	28.8	50.6	23.5	52.8	26.9
3	45.2	28.8	51.1	23.9	50.7	27.7
4	45.2	28.8	49.7	27.7	* 51.2	* 27.6
5	44.8	27.4	49.6	27.7	51.8	27.4
6	44.9	28.8	49.7	28.1	52.5	26.0
7	45.1	28.9	50.7	27.7	51.2	27.3
8	44.7	29.0	50.6	27.6	47.6	28.5
9	44.7	29.1	50.1	27.7	50.6	27.6
10	45.0	29.0	50.2	27.8	49.0	28.6
11	45.3	29.4	51.7	27.7	49.3	28.8
12	45.7	29.1	49.8	28.1	48.2	28.8
13	46.8	27.6	50.3	27.7	48.8	28.9
14	45.8	28.8	49.2	28.2	51.0	26.0
15	46.8	27.8	49.2	28.1	52.7	24.2
16	46.2	27.8	50.4	26.5	54.4	21.7
17	47.0	27.6	50.3	23.8	55.8	22.1
18	46.7	27.4	49.8	26.4	53.0	26.7
19	46.2	28.2	52.0	* 23.8	53.2	26.1
20	48.2	27.6	50.7	21.2	54.2	22.9
21	46.7	27.6	51.6	23.1	53.8	24.8
22	46.8	27.7	51.5	24.2	50.8	27.4
23	46.2	28.6	51.6	25.8	50.6	28.0
24	46.8	28.0	48.8	27.8	50.2	27.4
25	47.7	27.1	49.1	27.7	49.0	28.6
26	48.0	28.1	52.7	19.9	49.7	28.5
27	48.0	28.2	54.8	23.8	53.8	22.5
28	46.8	28.6	54.3	24.0	52.0	26.7
29	46.3	29.1	56.1	24.0	52.5	27.4
30	* 48.0	* 26.2	56.0	24.0	51.3	27.8
31	0.0	0.0	56.7	24.0	0.0	0.0
MEANS	46.14	28.33	51.25	25.70	51.50	26.64
OBSVNS.	29	29	31	30	29	29
MAXIMUM	48.2	29.4	56.7	28.2	55.8	28.9
MINIMUM	44.7	27.1	48.8	19.9	47.6	21.7
STD. DEV.	1.06	.65	2.16	2.35	2.04	2.11

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	53.3	26.5	58.0	26.7	54.5	27.2
2	58.0	* 0.0	56.3	26.9	* 55.0	* 27.0
3	* 0.0	* 0.0	53.3	27.3	55.6	26.9
4	* 0.0	* 0.0	51.7	28.0	51.2	28.0
5	* 0.0	* 0.0	53.8	27.3	57.4	27.1
6	* 0.0	* 0.0	54.8	26.4	53.2	27.6
7	* 0.0	* 0.0	60.5	21.3	52.4	28.0
8	* 0.0	* 0.0	60.4	20.3	54.0	27.2
9	* 0.0	* 0.0	62.3	21.7	54.1	27.2
10	* 0.0	* 0.0	57.0	25.1	54.0	27.4
11	* 0.0	* 0.0	65.6	20.1	51.7	28.0
12	* 0.0	* 0.0	63.3	22.9	51.2	28.2
13	* 0.0	* 0.0	59.7	25.1	54.0	26.4
14	* 0.0	* 0.0	54.7	27.4	* 54.8	* 24.8
15	* 0.0	* 0.0	57.4	22.7	55.6	23.3
16	* 0.0	* 0.0	57.4	23.7	55.8	24.3
17	* 0.0	* 0.0	58.8	23.0	55.0	25.5
18	* 0.0	* 0.0	56.4	26.7	54.2	26.5
19	* 0.0	* 0.0	60.2	19.5	53.0	27.7
20	* 0.0	* 0.0	54.0	27.6	57.2	23.8
21	* 0.0	* 0.0	51.7	28.4	55.2	25.8
22	* 0.0	* 0.0	51.7	28.1	56.2	25.0
23	* 0.0	* 0.0	51.7	28.2	52.0	27.6
24	* 0.0	* 0.0	54.8	27.3	55.3	26.9
25	* 0.0	* 0.0	59.7	21.8	53.6	27.1
26	60.7	24.0	61.3	21.0	53.8	27.2
27	61.2	22.5	61.9	21.8	52.3	27.3
28	60.7	23.9	60.0	23.5	51.7	28.0
29	66.8	18.8	58.7	25.1	49.8	28.4
30	63.6	20.1	57.7	27.4	50.3	27.8
31	60.5	25.1	54.5	27.4	0.0	0.0
MEANS	60.60	22.99	57.40	24.83	53.72	26.84
OBSVNS.	8	7	31	31	28	28
MAXIMUM	66.8	26.5	65.6	28.4	57.4	28.4
MINIMUM	53.3	18.8	51.7	19.5	49.8	23.3
STD.DEV.	3.93	2.73	3.71	2.86	1.98	1.34

FORLIER PASS LW

49 00 48 N

123 35 05 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	50.3	27.8	48.3	28.4	46.3	27.3
2	50.2	28.1	48.8	28.4	* 46.8	* 27.9
3	50.0	28.4	48.5	28.5	47.3	28.5
4	50.0	28.6	48.0	27.3	46.2	27.6
5	52.3	27.8	48.7	27.7	46.2	27.6
6	50.3	29.0	48.5	28.0	46.2	27.7
7	51.3	28.4	48.2	28.1	45.2	28.0
8	53.8	24.0	48.0	28.5	46.2	28.4
9	54.8	23.3	48.3	29.0	46.7	28.5
10	52.3	27.2	48.3	29.1	44.6	27.3
11	53.0	27.3	47.3	26.9	44.3	27.4
12	51.5	27.8	47.5	27.6	44.5	27.2
13	51.6	27.7	48.0	28.1	44.8	27.4
14	50.2	27.8	46.8	26.5	45.3	28.0
15	51.2	27.3	47.3	27.8	43.5	27.3
16	51.3	27.6	47.0	27.1	45.0	28.1
17	50.8	27.3	47.4	27.7	44.8	27.8
18	50.2	27.7	47.0	27.4	44.5	28.1
19	49.4	28.5	47.8	28.6	44.0	28.0
20	50.2	28.4	48.6	28.5	44.3	28.1
21	49.7	28.6	48.6	28.2	45.0	28.4
22	49.4	28.9	47.4	27.3	44.7	28.5
23	51.2	28.6	47.5	28.0	45.2	28.5
24	50.2	28.5	47.7	28.5	44.6	28.5
25	49.4	29.3	47.7	28.8	43.4	27.8
26	48.3	26.3	48.2	29.1	41.8	27.2
27	48.3	28.0	47.7	29.0	43.6	27.8
28	48.2	27.6	47.7	28.9	42.3	27.1
29	47.8	27.2	46.2	26.5	44.0	27.7
30	46.8	28.7	45.7	25.9	44.3	28.5
31	47.2	26.1	0.0	0.0	43.0	28.0
MEANS	50.36	27.61	47.76	27.98	44.73	27.88
OBSVNS.	31	31	30	30	30	30
YRLY. MEANS.....					49.11	27.37
MAXIMUM	54.8	29.3	48.8	29.1	47.3	28.5
MINIMUM	46.8	23.3	45.7	25.9	41.8	27.1
STD. DEV.	1.81	1.30	.73	.84	1.26	.47

ACTIVE PASS HW

48 52 26 N

123 17 23 W

JANUARY

FEBRUARY

MARCH

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	44.3	29.9	44.6	30.2	40.4	27.6
2	44.1	29.9	44.0	28.5	41.8	27.8
3	42.4	29.3	42.3	25.9	42.7	28.5
4	42.2	28.9	* 42.3	* 26.9	42.7	28.6
5	41.8	28.4	42.3	28.0	42.8	28.5
6	43.2	28.5	42.3	27.2	43.4	29.0
7	44.4	29.1	41.6	25.9	44.5	29.5
8	44.4	29.7	42.2	28.5	44.6	29.9
9	43.7	28.6	43.5	28.4	44.2	29.8
10	44.4	29.5	45.2	28.6	44.5	29.7
11	39.8	29.5	44.3	28.8	44.4	29.5
12	41.8	29.3	44.2	28.6	45.6	29.8
13	41.0	29.9	44.0	28.6	45.8	29.9
14	41.9	29.7	44.2	28.8	45.8	29.8
15	43.8	29.7	44.2	29.4	43.4	29.8
16	44.6	29.8	44.0	29.0	43.0	29.8
17	44.2	29.4	43.3	28.8	* 42.6	* 28.7
18	44.3	29.0	44.1	28.6	42.1	27.6
19	43.4	29.0	43.0	25.2	42.2	27.2
20	41.7	29.7	42.2	23.7	43.1	27.1
21	* 42.2	* 29.2	43.2	25.4	44.5	28.1
22	42.6	28.6	44.3	27.6	43.7	27.7
23	42.4	28.8	44.8	28.6	46.6	28.8
24	43.3	28.9	45.1	29.5	45.9	27.3
25	41.6	27.1	* 44.4	* 30.0	45.3	27.8
26	44.4	28.8	43.7	30.4	44.0	27.7
27	44.7	29.0	42.8	27.8	45.4	28.9
28	45.1	29.3	42.2	27.6	45.4	29.0
29	45.0	29.5	0.0	0.0	45.8	29.8
30	45.1	29.9	0.0	0.0	43.9	29.0
31	45.2	30.0	0.0	0.0	44.2	28.6
MEANS	43.36	29.22	43.52	27.98	44.06	28.74
OBSVNS.	30	30	26	26	30	30
MAXIMUM	45.2	30.0	45.2	30.4	46.6	29.9
MINIMUM	39.8	27.1	41.6	23.7	40.4	27.1
STD. DEV.	1.41	.62	1.02	1.59	1.46	.95

ACTIVE PASS HW

48 52 26 N

123 17 23 W

APRIL

MAY

JUNE

1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	44.4	27.6	50.3	28.6	55.4	25.8
2	45.1	28.5	50.7	21.7	53.5	26.9
3	46.2	27.4	51.2	18.6	54.8	26.7
4	46.4	27.3	51.7	27.6	52.7	28.8
5	47.2	28.5	51.2	24.2	53.3	28.4
6	46.1	28.8	53.1	22.1	50.7	29.3
7	46.4	29.7	52.8	28.1	52.2	29.7
8	46.1	29.8	52.8	25.2	51.3	30.2
9	45.0	29.1	51.4	28.1	51.8	30.3
10	45.6	29.9	53.4	28.6	52.1	30.2
11	46.4	29.5	52.1	28.6	50.7	29.5
12	47.2	29.0	49.6	29.7	50.9	29.8
13	47.3	29.1	48.6	29.4	50.9	29.3
14	46.9	28.9	48.7	29.9	53.1	25.4
15	46.2	28.8	48.7	29.0	55.8	10.1
16	45.3	23.0	47.0	29.9	58.2	6.0
17	45.5	28.6	49.3	26.4	53.0	26.8
18	47.0	28.1	51.2	26.7	54.5	24.4
19	47.7	28.9	50.1	27.8	55.0	26.5
20	48.7	28.5	51.9	12.2	53.4	27.8
21	49.1	28.9	53.8	20.9	55.6	26.1
22	47.0	29.1	56.1	23.7	53.5	23.7
23	51.6	29.1	54.0	27.2	53.0	27.6
24	50.0	27.1	49.2	29.1	49.9	28.5
25	50.7	25.4	52.3	28.2	50.8	29.1
26	49.4	29.1	* 52.8	* 25.2	52.1	28.6
27	47.0	29.0	53.4	22.2	53.1	27.7
28	47.4	29.0	53.8	26.3	52.2	27.3
29	47.1	28.9	52.5	26.9	52.2	27.7
30	47.5	28.9	54.7	19.6	55.7	21.4
31	0.0	0.0	55.6	16.7	0.0	0.0
MEANS	47.12	28.45	51.71	25.44	53.05	26.32
OBSVNS.	30	30	30	30	30	30
MAXIMUM	51.6	29.9	56.1	29.9	58.2	30.3
MINIMUM	44.4	23.0	47.0	12.2	49.9	6.0
STD.DEV.	1.69	1.38	2.21	4.41	1.92	5.40

ACTIVE PASS HW

48 52 26 N

123 17 23 W

JULY

AUGUST

SEPTEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	57.4	13.2	64.2	9.2	58.6	27.6
2	59.2	11.9	55.7	28.4	57.7	27.7
3	62.7	16.3	56.0	28.4	57.0	27.8
4	59.4	21.6	55.7	28.6	53.7	28.9
5	58.7	17.6	60.5	23.8	53.3	29.0
6	56.7	23.1	56.0	28.2	54.3	28.4
7	61.1	20.6	64.2	9.0	55.0	27.7
8	56.0	24.2	62.0	25.1	53.3	27.4
9	54.2	24.7	64.0	24.3	53.9	28.1
10	52.4	28.1	67.2	22.0	54.2	28.2
11	52.7	28.2	62.2	25.4	53.8	28.5
12	56.1	29.9	64.0	22.5	54.0	28.8
13	56.7	25.6	58.0	16.5	* 55.4	* 25.5
14	57.4	26.1	57.2	28.0	56.8	22.2
15	64.1	9.2	55.3	29.0	56.8	25.0
16	63.3	16.9	61.0	26.5	57.4	20.4
17	64.2	17.9	59.6	27.3	57.8	25.5
18	68.6	13.6	58.1	28.4	57.8	24.7
19	67.7	11.6	58.1	28.5	57.7	26.0
20	67.2	19.0	55.8	28.9	58.3	22.0
21	67.7	15.2	53.2	29.3	58.7	20.3
22	65.0	21.4	55.4	28.8	57.1	21.8
23	65.9	18.6	52.7	29.1	55.7	27.3
24	68.3	13.2	57.8	26.8	55.5	26.5
25	64.7	21.4	59.6	22.1	55.7	24.8
26	62.5	25.1	62.3	21.7	56.3	21.4
27	59.8	26.4	63.0	22.2	54.0	25.6
28	61.3	24.8	63.0	23.0	53.7	25.9
29	58.4	26.4	61.4	25.2	52.3	28.2
30	60.5	27.1	60.2	26.7	52.8	28.0
31	56.3	27.2	57.7	27.6	0.0	0.0

MEANS	60.85	20.71	59.39	24.85	55.63	25.99
OBSVNS.	31	31	31	31	29	29
MAXIMUM	68.6	28.2	67.2	29.3	58.7	29.0
MINIMUM	52.4	9.2	52.7	9.0	52.3	20.3
STD.DEV.	4.71	5.64	3.66	5.18	1.96	2.73

ACTIVE PASS HW

48 52 28 N

123 17 23 W

OCTOBER

NOVEMBER

DECEMBER 1971

DATE	TEMP	SAL,	TEMP	SAL,	TEMP	SAL,
1	53.8	28.0	48.0	26.8	45.7	26.7
2	53.1	28.0	48.0	27.6	46.8	28.8
3	51.5	29.1	48.2	28.1	45.2	28.5
4	51.7	29.4	47.3	28.1	45.3	29.0
5	53.5	27.2	46.1	25.1	46.2	29.4
6	52.7	28.2	46.0	27.8	44.1	25.2
7	50.0	* 25.6	46.8	28.0	44.6	28.8
8	51.8	23.0	47.8	28.9	44.5	28.6
9	52.2	24.8	48.0	29.8	43.8	28.5
10	52.3	26.1	48.6	29.4	43.8	28.6
11	53.1	28.0	47.9	29.3	42.4	25.9
12	52.0	26.9	47.5	28.5	45.1	28.8
13	53.1	26.1	48.4	28.8	43.7	27.8
14	51.7	27.8	47.5	24.3	43.8	27.7
15	51.9	23.1	46.8	25.4	42.3	26.3
16	51.1	23.5	46.8	25.6	43.9	28.0
17	51.5	27.7	46.8	27.6	43.3	27.3
18	51.2	27.3	46.9	28.4	42.3	25.2
19	50.2	28.4	47.0	28.8	43.2	28.8
20	50.2	28.4	47.9	29.4	42.6	29.1
21	49.1	29.5	47.7	29.5	43.7	29.1
22	49.0	29.4	46.5	29.3	43.1	29.4
23	48.8	29.3	46.4	28.6	43.9	29.1
24	48.6	28.9	47.4	29.4	44.2	29.8
25	49.1	29.5	46.8	28.8	42.0	28.6
26	48.3	28.9	47.3	29.9	41.8	28.6
27	46.7	24.2	47.1	29.9	41.0	28.5
28	47.2	26.9	46.8	30.0	41.8	27.7
29	48.2	27.4	46.9	28.8	41.8	27.4
30	47.5	28.4	45.9	25.0	43.3	28.6
31	47.2	25.6	0.0	0.0	43.8	27.1
MEANS	50.59	27.30	47.24	28.16	43.65	28.09
OBSVNS.	31	30	30	30	31	31
YRLY. MEANS.....					50.11	26.74
MAXIMUM	53.8	29.5	48.6	30.0	46.8	29.8
MINIMUM	46.7	23.0	45.9	24.3	41.0	25.2
STD. DEV.	2.09	1.95	.71	1.61	1.38	1.20

Table 2. Monthly and annual mean sea temperatures (C) in 1971, daily standard deviations, and differences from long-term means (30-year period is 1941-70)

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Langara I. Std. Devn. Δ 30-yr.	5.4 0.7 -0.7	5.2 0.5 -0.9	5.2 0.4 -1.0	6.4 0.4 -0.5	7.3 0.3 -0.9	9.1 0.8 -0.6	10.7 0.5 -0.3	11.9 1.4 +0.4	11.8 0.9 +0.4	8.7 0.4 -1.7	7.1 0.3 -1.4	6.6 0.7 -0.4	8.0 *** -0.6
Bonilla I. Std. Devn. Δ 10-yr.	5.1 1.3 -1.1	5.6 0.6 -0.8	5.7 0.5 -0.9	6.9 0.7 -0.6	8.6 0.9 -0.7	10.4 1.2 -0.7	12.0 0.9 -0.2	13.4 1.1 +1.1	12.6 0.8 +0.5	10.4 0.8 -0.2	8.2 0.4 -0.4	6.1 0.8 -1.0	8.9 *** -0.3
McInnes I. Std. Devn. Δ 16-yr.	5.6 1.2 -0.9	5.7 0.9 -0.8	5.8 0.3 -0.8	6.7 0.3 -0.9	8.2 0.4 -1.2	10.8 1.4 -0.7	12.8 0.7 +0.0	13.9 1.2 +0.4	12.4 0.7 -0.3	10.5 1.3 +0.0	8.0 0.4 -0.5	5.9 0.8 -1.4	8.9 *** -0.5
Cape St. James Std. Devn. Δ 27-yr.	7.1 0.6 -0.2	6.9 0.3 -0.1	6.4 0.3 -0.5	6.6 0.3 -0.8	7.6 0.4 -1.0	8.9 0.4 -1.3	11.2 1.6 -0.4	11.9 1.5 -0.6	10.6 0.9 -1.1	10.0 0.7 +0.2	7.7 0.3 -1.1	6.7 0.4 -1.3	8.4 *** -0.7
Egg I. Std. Devn.	6.5 0.3	6.3 0.4	6.3 0.3	7.2 0.3	8.7 0.6	10.3 1.3	13.3 1.3	12.8 1.7	11.6 0.6	9.6 0.9	7.8 0.3	6.3 0.8	8.9 ***
Pine I. Std. Devn. Δ 30-yr	6.8 0.3 -0.6	6.9 0.2 -0.3	6.7 0.2 -0.6	7.1 0.2 -0.6	8.0 0.6 -0.6	8.8 0.4 -0.4	9.5 0.5 -0.4	9.9 0.3 -0.1	10.3 0.7 +0.6	9.4 0.6 -0.2	7.9 0.4 -0.9	*** *** ***	8.2 *** -0.4
Kains I. Std. Devn. Δ 30-yr	6.0 0.7 -1.6	6.6 0.7 -0.9	6.7 0.3 -1.1	7.7 0.5 -0.9	9.1 0.4 -1.0	10.9 0.9 -0.6	12.3 0.8 -0.2	14.3 0.9 +0.7	13.0 1.1 +0.1	10.9 1.2 -0.4	8.4 0.4 -1.1	6.9 0.7 -1.4	9.4 *** -0.7
Amphitrite Pt. Std. Devn. Δ 30-yr.	7.5 0.4 -0.1	7.4 0.5 -0.3	7.0 0.6 -1.1	8.6 0.6 -0.6	9.8 0.6 -0.7	11.8 0.8 +0.3	12.8 1.1 +0.3	13.6 1.0 +0.5	13.4 0.7 +0.7	11.1 1.5 -0.3	9.2 0.4 -0.8	7.7 0.8 -0.9	10.1 *** -0.2
Sheringham Pt. Std. Devn. Δ 4-yr.	7.3 0.3 +0.1	7.1 0.2 -0.1	6.9 0.2 -0.6	7.6 0.4 -0.5	8.8 0.6 -0.4	9.5 0.4 -0.7	10.5 1.0 -0.3	11.1 0.4 +0.1	10.6 0.4 +0.1	9.3 0.4 -0.1	8.3 0.2 -0.5	7.5 0.6 -0.4	8.7 *** ***
Race Rocks Std. Devn. Δ 30-yr.	7.1 0.2 -0.2	6.9 0.2 -0.3	6.7 0.2 -0.7	7.6 0.3 -0.7	8.6 0.3 -0.6	9.2 0.4 -0.8	10.1 0.5 -0.4	10.7 0.4 +0.0	10.4 0.4 +0.1	9.3 0.4 -0.2	8.3 0.2 -0.2	7.4 0.4 -0.6	8.6 *** -0.3

Table 2. cont'd

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Cape Mudge Std. Devn. Δ 30-yr.	6.8 0.9 -0.1	7.2 0.6 -0.1	7.4 0.8 -0.5	8.6 1.2 -0.7	10.8 1.5 -0.4	13.2 1.2 ±0.0	14.9 2.1 +0.6	16.2 2.4 +2.2	13.2 1.8 +0.7	10.6 1.7 ±0.0	8.5 0.3 -0.2	6.9 0.8 -0.6	10.6 *** +0.3
Sisters I. Std. Devn. Δ 4-yr.	6.7 0.2 +0.4	6.4 0.2 ±0.0	6.6 0.3 -0.5	8.3 0.9 -0.2	11.6 1.3 -0.6	13.9 0.8 -1.6	17.2 2.2 -0.1	17.9 1.5 +0.9	14.2 0.7 +0.1	10.9 1.4 -0.2	8.4 0.3 -0.4	6.8 0.7 -0.5	10.8 *** ***
Chrome I. Std. Devn. Δ 11-yr.	6.2 0.5 -0.4	6.2 0.4 -0.6	6.3 0.6 -0.9	8.0 0.9 -0.6	11.3 1.6 -0.2	12.8 1.2 -2.1	16.8 3.0 ±0.0	16.4 1.7 -0.2	13.2 1.0 -0.7	10.7 1.2 -0.1	8.6 0.4 -0.4	6.9 0.7 -0.7	10.3 *** -0.5
Entrance I. Std. Devn. Δ 30-yr.	6.4 0.4 -0.4	6.6 0.5 -0.2	6.7 0.6 -0.7	8.3 0.9 -0.6	11.6 1.5 -0.4	13.1 1.5 -1.8	17.0 2.0 ±0.0	17.1 2.4 +0.1	13.7 1.1 -0.8	10.8 1.3 -0.4	8.4 0.4 -0.6	6.9 0.7 -0.8	10.6 *** -0.4
Departure Bay Std. Devn. Δ 30-yr	5.2 1.7 -1.1	5.9 1.7 -0.6	6.3 1.7 -1.0	8.9 1.2 -0.3	11.9 1.7 -0.6	13.7 1.3 -1.7	17.4 2.5 -0.1	17.6 1.9 +0.2	14.2 1.2 -0.4	10.7 2.1 -0.6	8.1 0.5 -0.6	6.1 0.8 -0.9	10.6 *** -0.5
Porlier Pass HW Std. Devn. Δ 5-yr.	6.7 0.4 ±0.0	6.8 0.3 -0.1	6.7 0.5 -0.6	7.9 0.5 -0.4	10.3 0.9 +0.1	11.6 0.9 -1.4	*** *** ***	14.7 1.1 ±0.0	12.7 0.8 -0.2	10.6 0.8 -0.2	8.7 0.3 -0.4	7.1 0.7 -0.6	9.6 *** ***
Porlier Pass LW Std. Devn. Δ 5-yr.	7.0 0.6 -0.1	6.9 0.4 ±0.0	7.1 0.4 -0.3	7.8 0.6 -0.3	10.7 1.2 +0.3	10.8 1.1 -1.8	*** *** ***	14.1 2.1 -0.1	12.1 1.1 -0.4	10.2 1.0 -0.2	8.8 0.4 -0.3	7.1 0.7 -0.7	9.5 *** ***
Active Pass HW Std. Devn. Δ 5-yr.	6.3 0.8 +0.1	6.4 0.6 -0.2	6.7 0.8 -0.7	8.4 0.9 -0.2	10.9 1.2 -0.2	11.7 1.1 -2.1	16.0 2.6 +0.1	15.2 2.0 ±0.0	13.1 1.1 -0.1	10.3 1.2 -0.2	8.4 0.4 -0.3	6.5 0.8 -0.7	10.1 *** ***

Table 3. Monthly and annual mean salinities (ppt) in 1971, and daily standard deviations.

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Langara I. Stnd. Devn.	32.4 0.2	32.5 0.2	32.4 0.3	32.4 0.2	32.3 0.3	32.6 0.2	32.4 0.3	32.6 0.2	32.3 0.4	32.5 0.3	32.5 0.2	32.7 0.2	32.5
Bonilla I. Stnd. Devn.	31.9 0.3	31.5 0.3	31.6 0.3	31.3 0.2	31.6 0.3	31.6 0.4	31.6 0.3	31.3 0.4	31.0 0.4	30.7 0.2	30.7 0.2	30.5 0.2	31.3
McInnes I. Stnd. Devn.	31.3 0.2	29.5 1.8	30.6 0.6	30.6 0.4	31.0 0.3	30.5 1.2	30.0 0.7	29.8 2.1	28.9 1.3	29.6 1.2	29.5 1.0	29.9 0.5	30.1
Cape St. James Stnd. Devn.	32.4 0.1	32.3 0.2	32.3 0.1	32.2 0.1	32.1 0.1	Salinity observations terminated							
Egg I. Stnd. Devn.	31.3 0.4	30.6 0.5	31.3 0.1	31.1 0.3	30.1 0.8	30.0 1.4	28.1 1.0	29.8 1.3	29.3 1.9	30.8 0.7	31.2 0.3	31.4 0.6	30.4
Pine I. Stnd. Devn.	31.4 0.6	31.3 0.2	31.5 0.2	31.6 0.2	31.9 0.2	32.0 0.1	31.9 0.2	31.8 0.2	31.8 0.2	31.8 0.2	31.5 0.2	31.3 0.2	31.7
Kains I. Stnd. Devn.	29.2 2.2	28.2 1.5	29.8 0.7	29.6 0.6	30.8 0.7	31.7 0.6	31.5 0.5	31.8 0.7	30.4 0.8	29.4 1.2	27.6 2.0	29.6 0.8	30.0
Amphitrite Pt. Stnd. Devn.	27.5 3.3	27.6 1.2	28.2 1.3	28.3 1.4	30.2 1.0	29.6 1.3	30.3 0.8	30.5 0.6	29.2 1.6	28.6 2.1	27.8 1.6	28.3 2.2	28.9
Race Rocks Stnd. Devn.	31.2 0.5	31.0 0.4	31.1 0.4	30.9 0.3	31.1 0.3	31.1 0.6	30.8 0.4	30.6 0.5	30.7 0.6	31.2 0.3	31.6 0.3	31.1 0.6	31.0

Table 3. cont'd

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Cape Mudge Std. Devn.	29.2 0.3	29.1 0.3	28.8 0.4	29.1 0.3	29.2 0.3	26.3 1.9	26.6 1.4	25.6 0.9	26.6 0.6	27.8 0.8	28.6 0.5	28.4 0.4	27.9 ***
Sisters I. Std. Devn.	29.8 0.2	28.9 0.6	29.2 0.2	29.1 0.2	28.4 1.1	22.6 2.9	23.6 1.5	23.3 1.6	25.8 0.6	27.2 1.3	28.4 0.4	28.8 0.2	27.1 ***
Chrome I. Std. Devn	29.3 0.2	28.3 1.7	28.7 0.7	28.8 0.4	27.7 1.0	27.1 1.8	24.6 1.0	26.3 1.0	27.1 0.6	28.0 0.7	28.0 1.4	28.5 0.2	27.7 ***
Entrance I. Std. Devn.	28.6 0.8	28.5 0.9	28.9 0.3	28.6 0.6	26.1 2.1	24.3 4.4	22.6 2.2	23.2 3.4	26.0 1.5	27.0 1.3	27.6 1.2	28.1 0.3	26.6 ***
Departure Bay Std. Devn.	28.1 1.6	27.3 2.0	27.7 1.5	27.1 1.8	26.5 1.8	23.7 3.9	22.8 1.9	23.2 2.7	26.4 1.6	27.3 0.9	26.3 2.0	27.2 0.8	26.1 ***
Porlier Pass HW Std. Devn.	28.9 0.3	28.5 0.5	28.6 0.3	28.4 0.5	27.0 1.6	27.0 1.5	*** ***	25.8 1.4	27.1 0.6	28.0 0.4	28.1 0.4	28.0 0.4	27.7 ***
Porlier Pass LW Std. Devn.	29.0 0.4	28.6 0.7	28.9 0.5	28.3 0.6	25.7 2.4	26.6 2.1	*** ***	24.8 2.9	26.8 1.3	27.6 1.3	28.0 0.8	27.9 0.5	27.4 ***
Active Pass HW Std. Devn.	29.2 0.6	28.0 1.6	28.7 1.0	28.5 1.4	25.4 4.4	26.3 5.4	20.7 5.6	24.8 5.2	26.0 2.7	27.3 2.0	28.2 1.6	28.1 1.2	26.7 ***

Annual Graphs of the 7-day
Normally-Weighted, Running Means

Temperature

and

Salinity

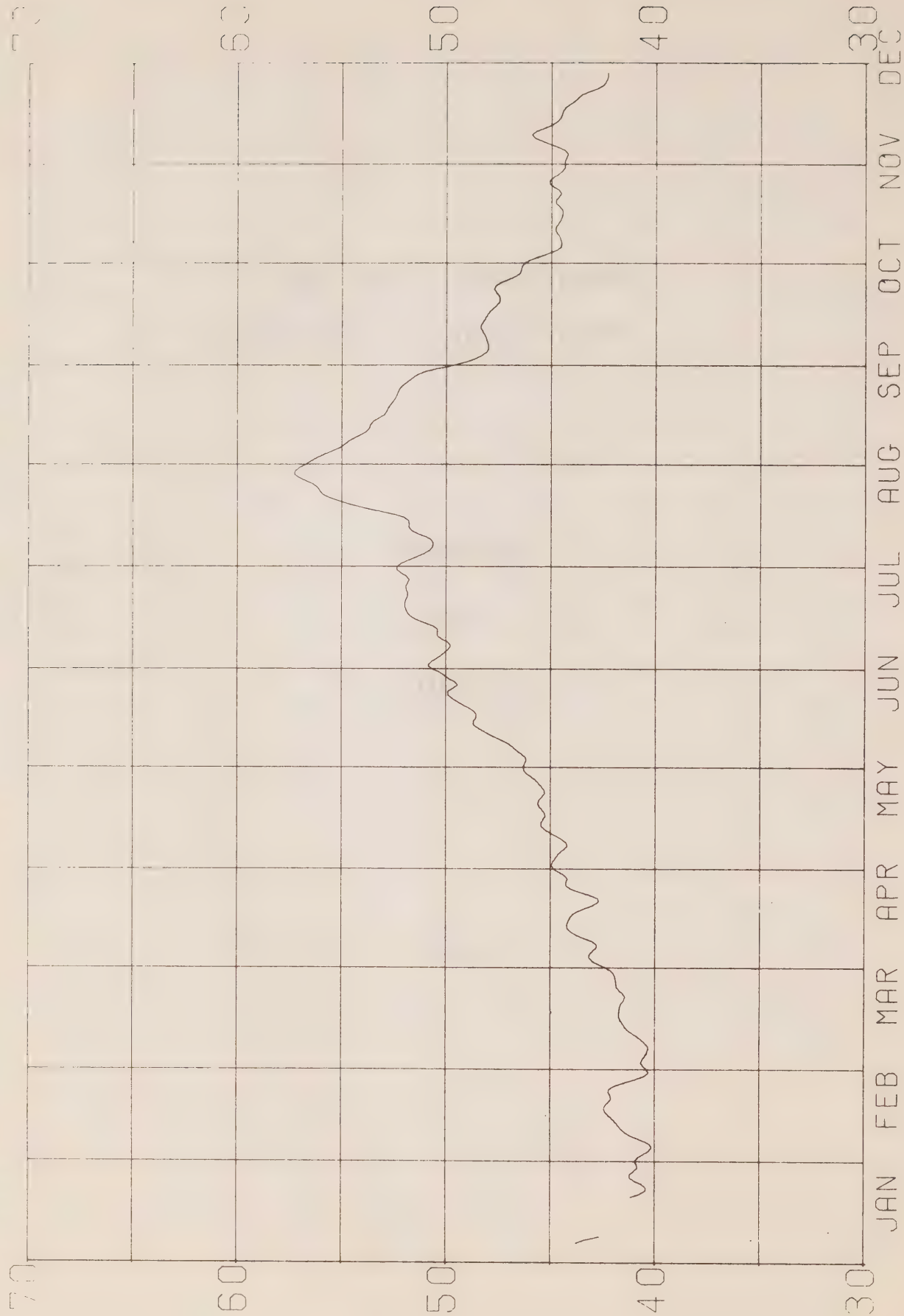
1971

LANGARA ISLAND

1971

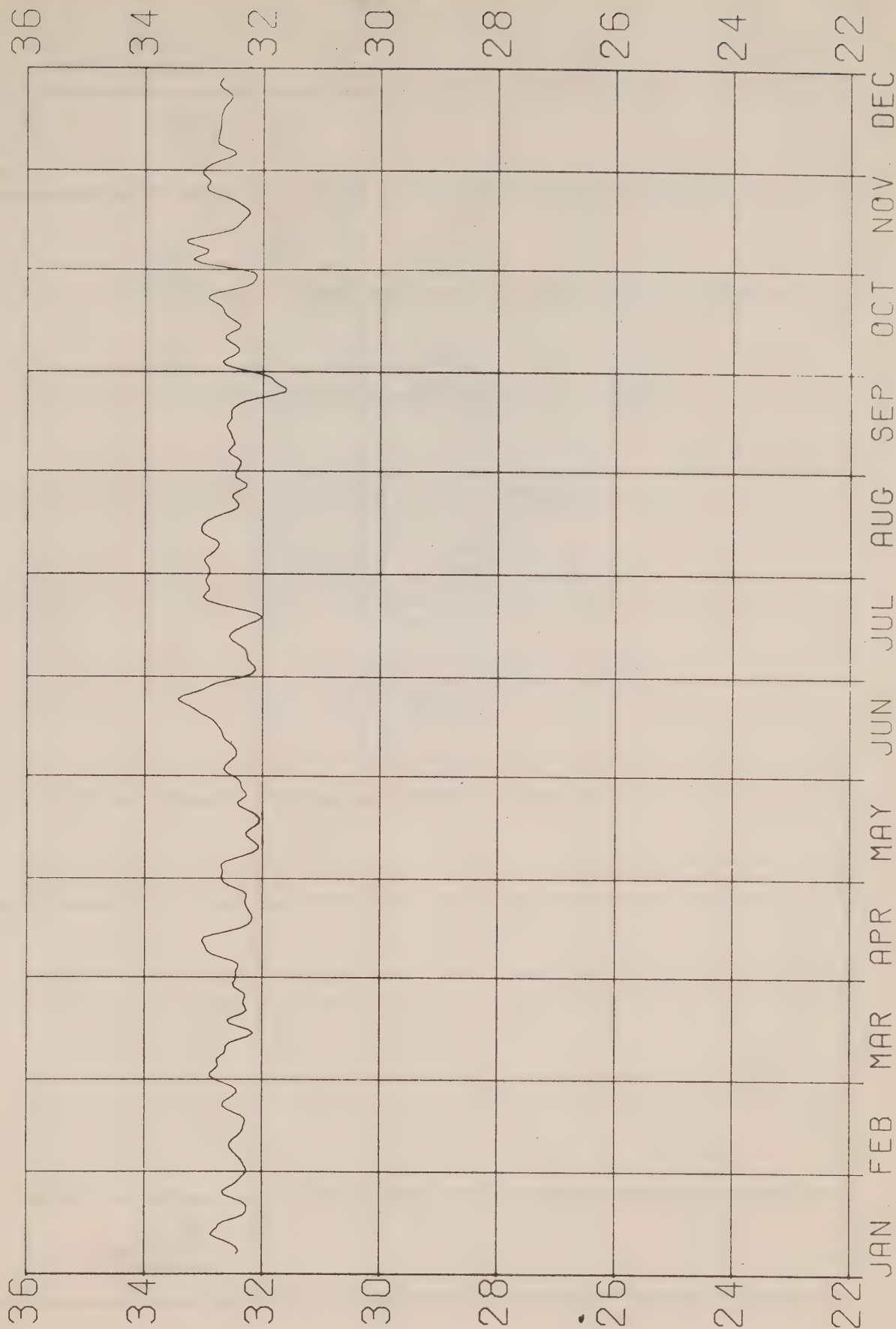
WPE-16

2-1-71



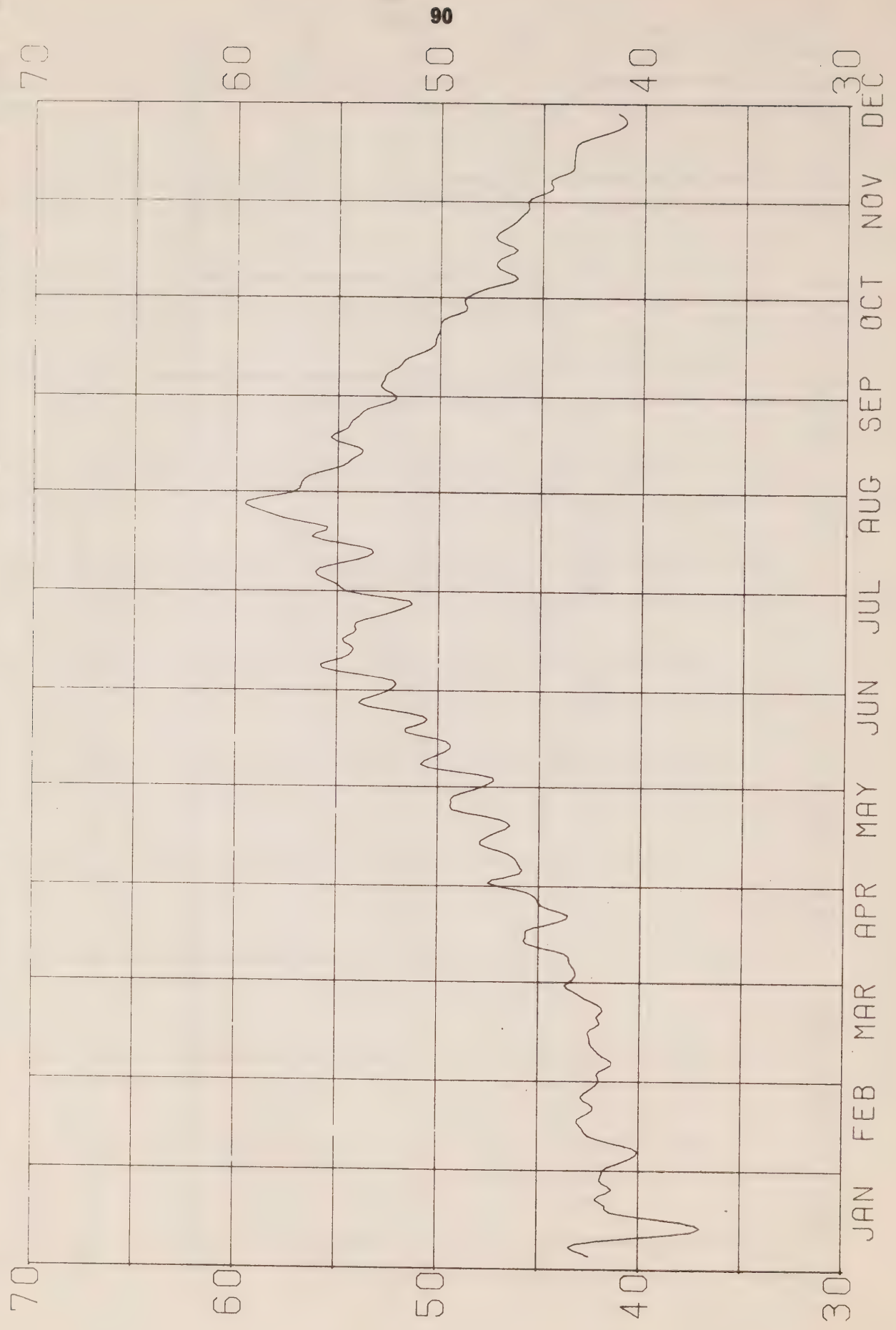
LANGARA ISLAND

1971 SALINITIES



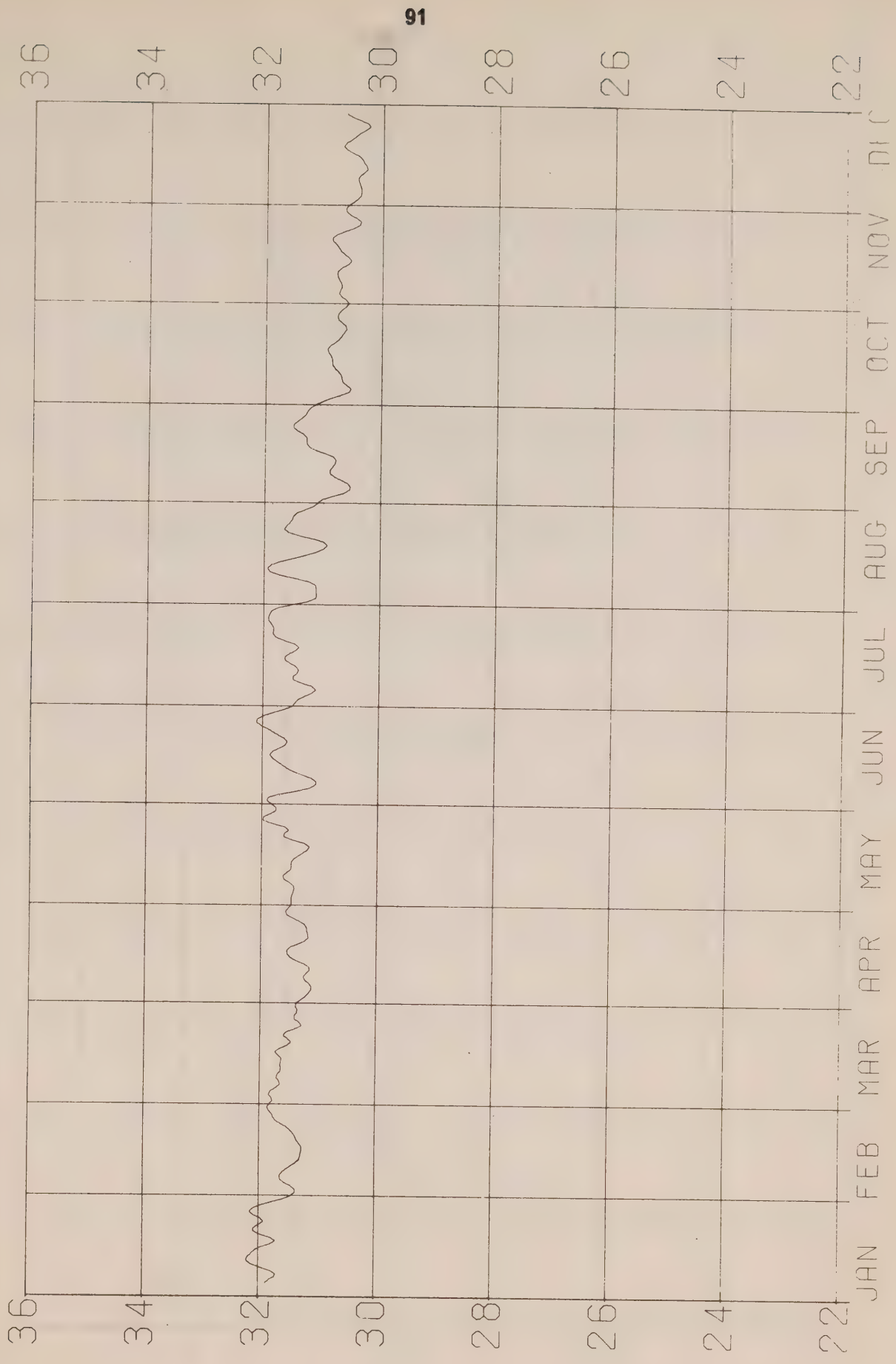
BONILLA ISLAND

1971 TEMPERATURE



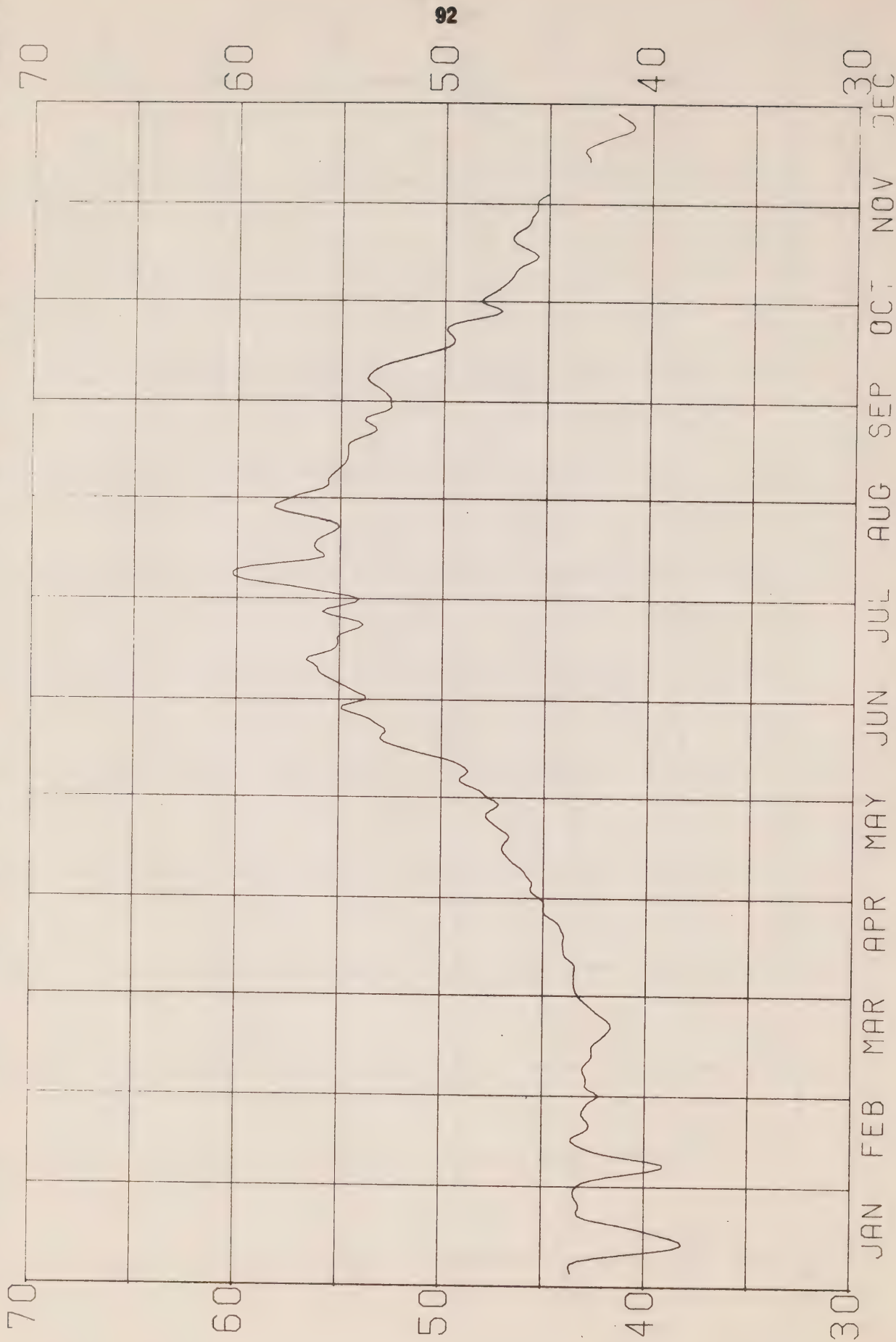
BONILLA ISLAND

1971 SALINITIES



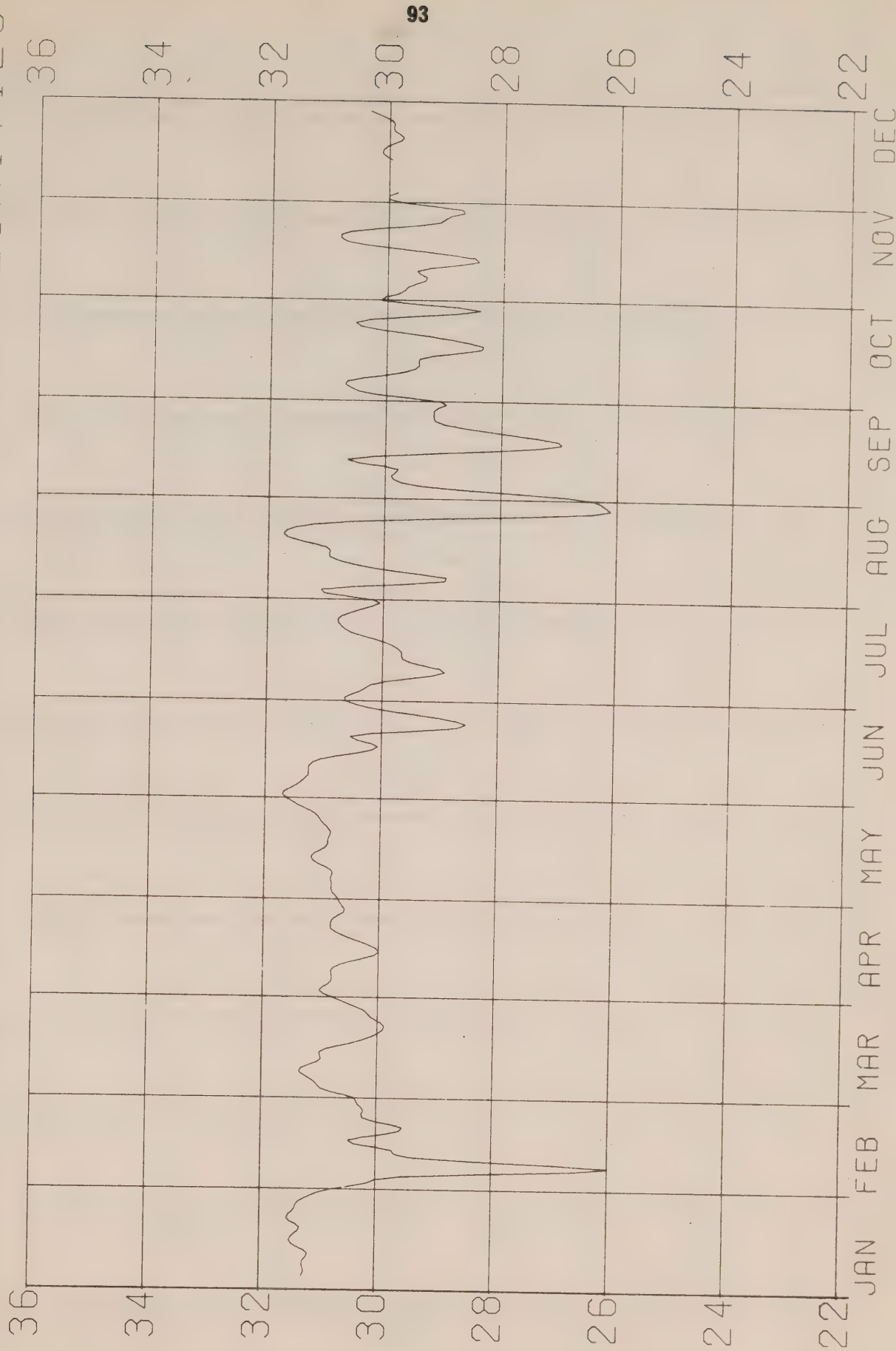
MC INNES ISLAND

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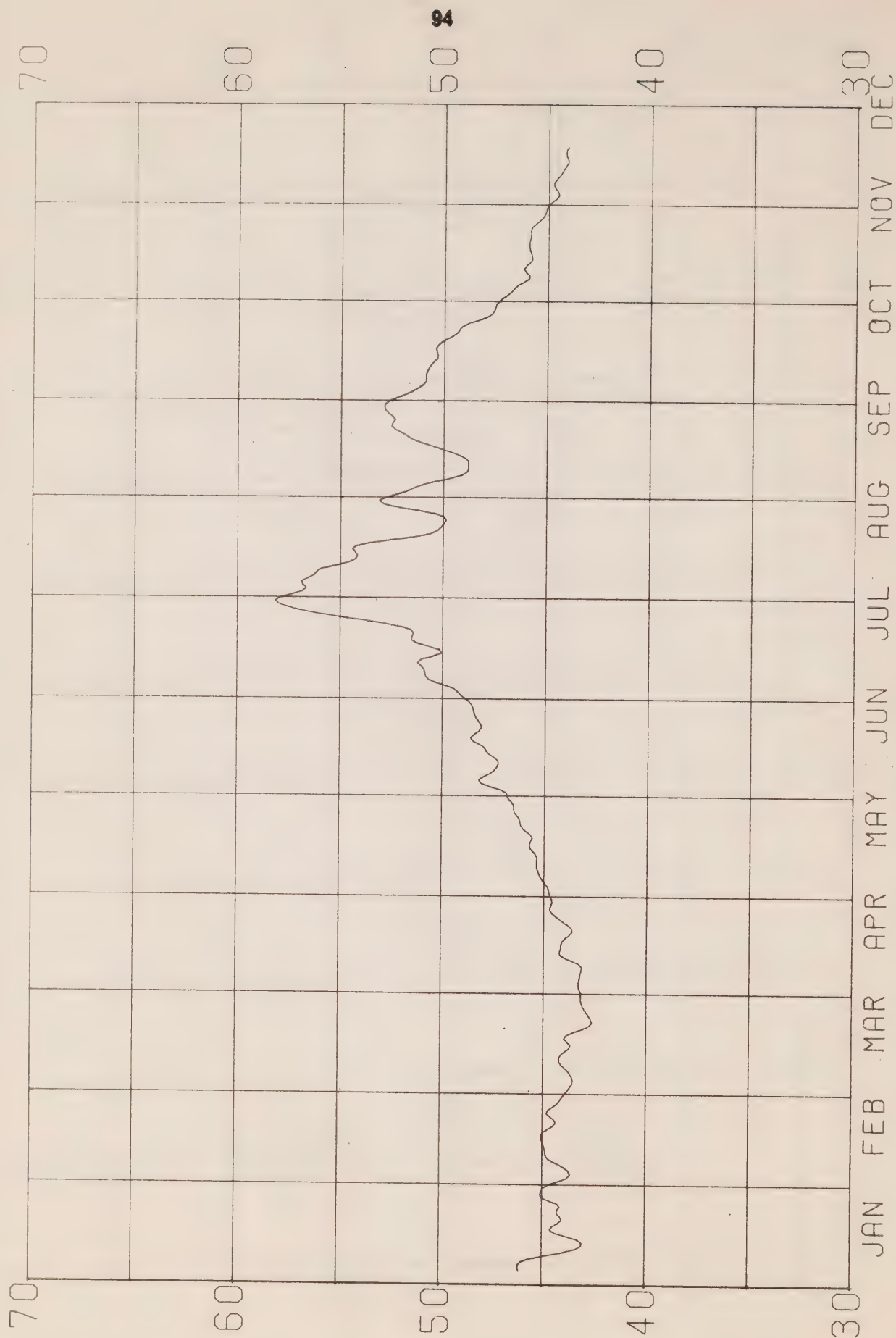
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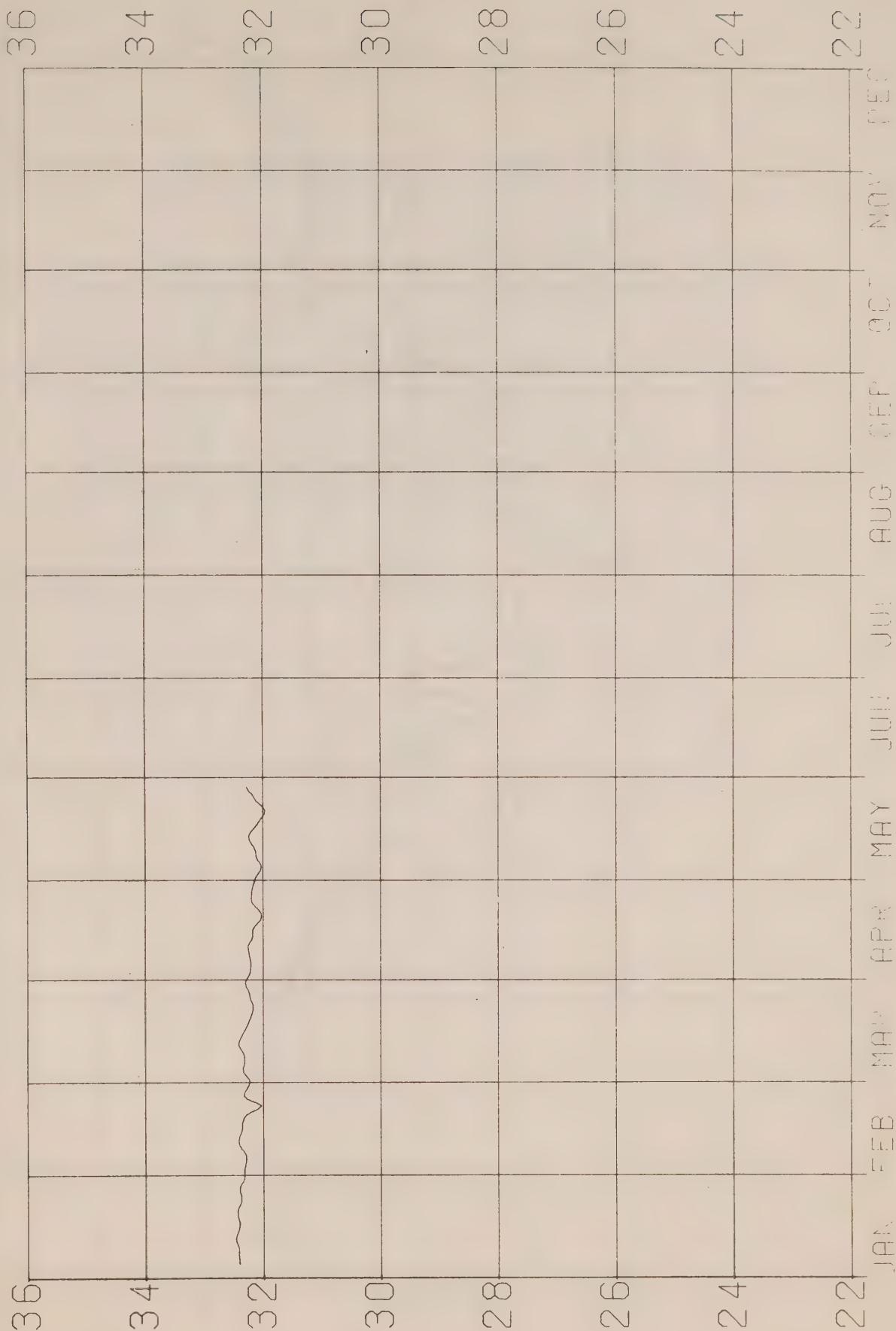
CAPE ST JAMES

1971 TEMPERATURES



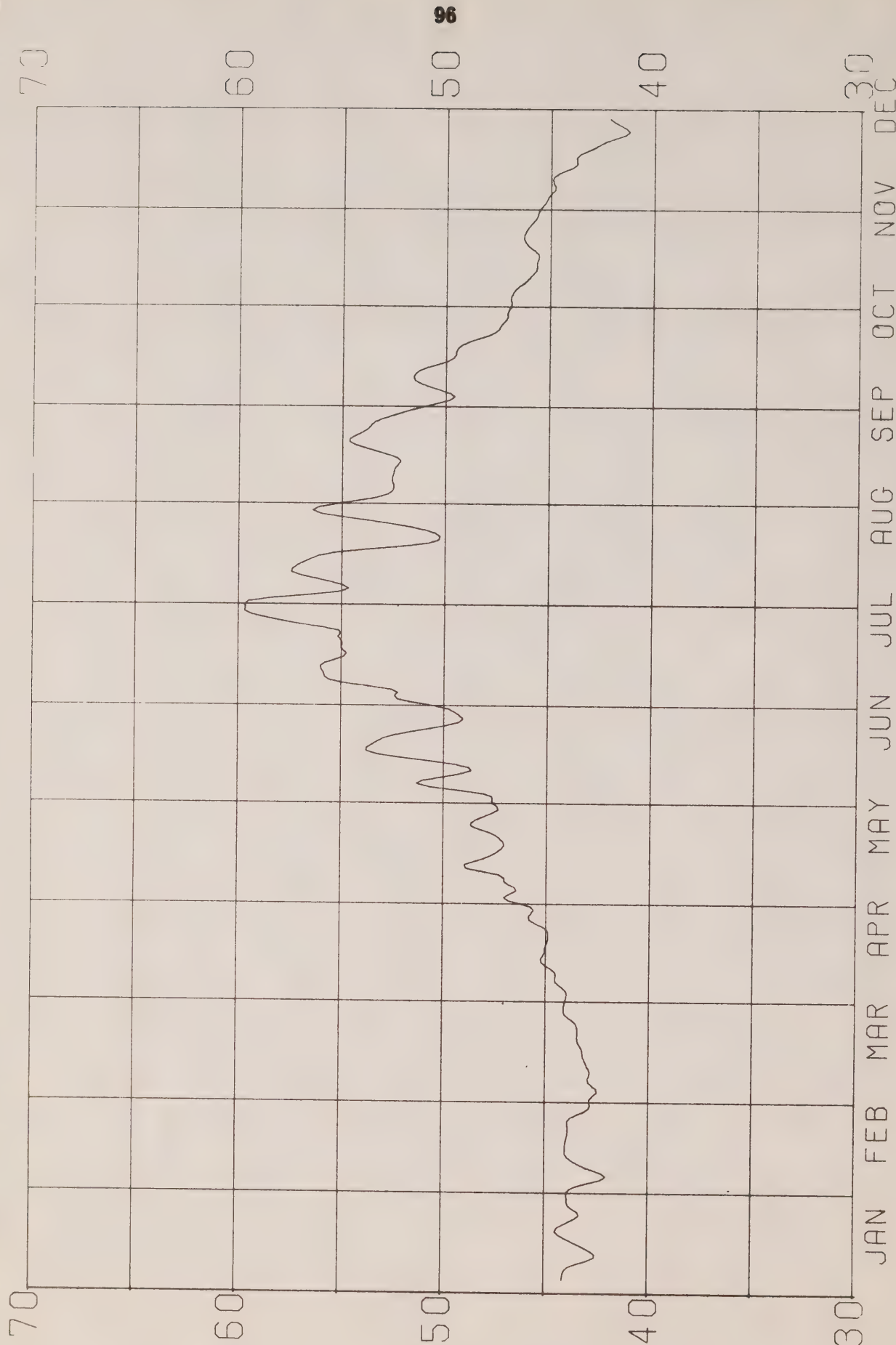
CAPE ST JAMES 1971 SALINITIES

95



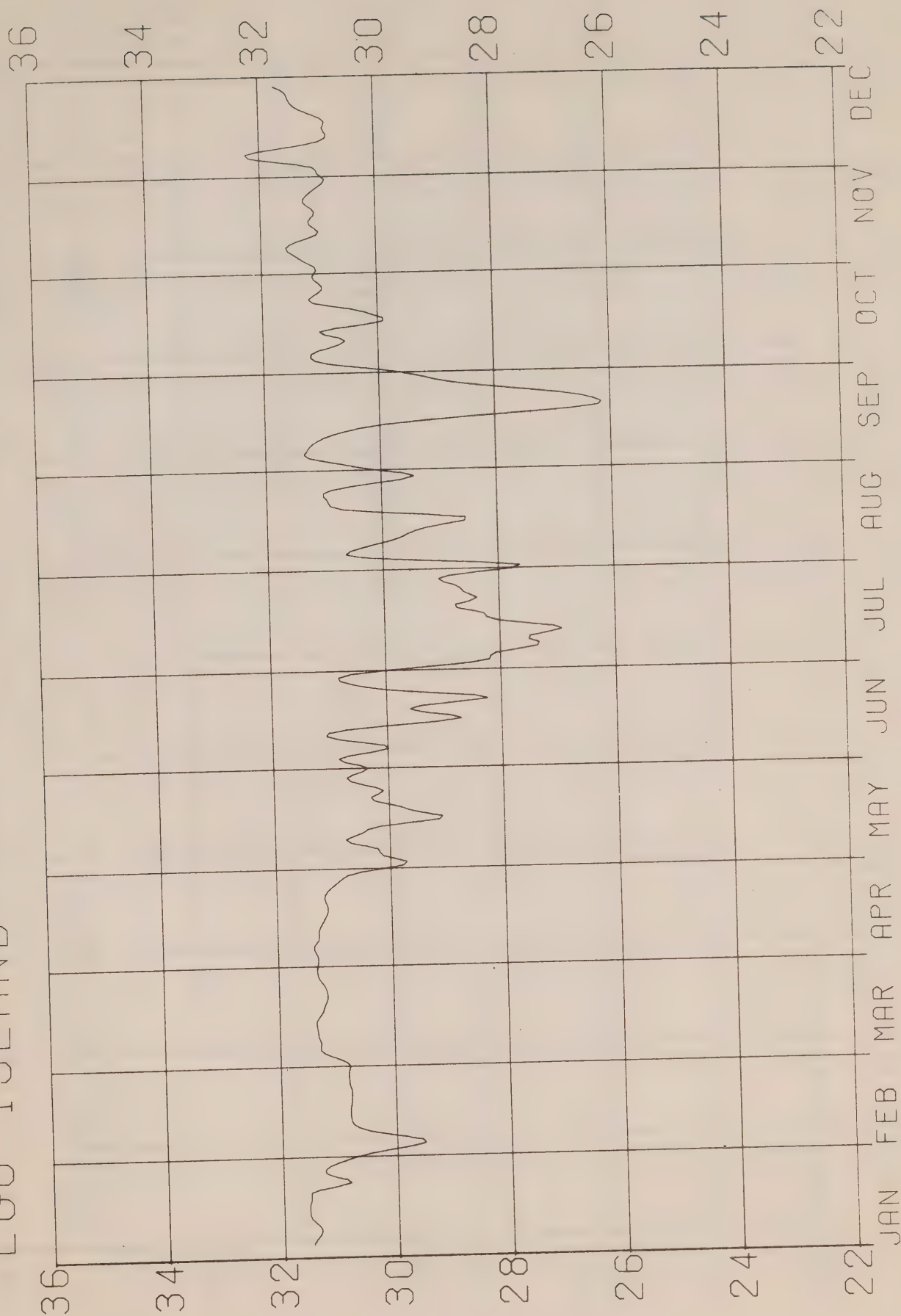
EGG ISLAND

1971 TEMPERATURE



EGG ISLAND 1971 SALINITIES

97



PINE ISLAND

1971 TEMPERATURES

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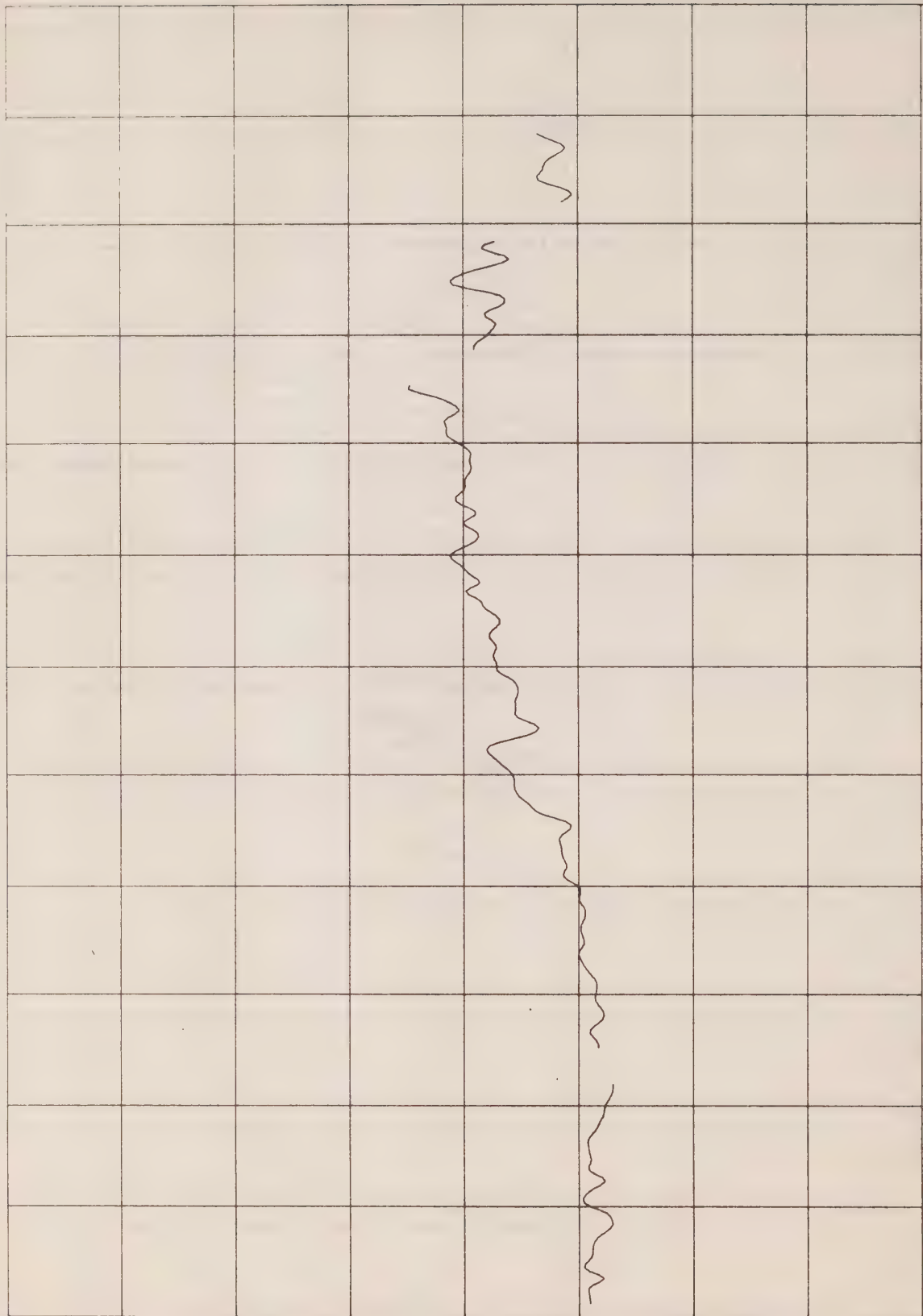
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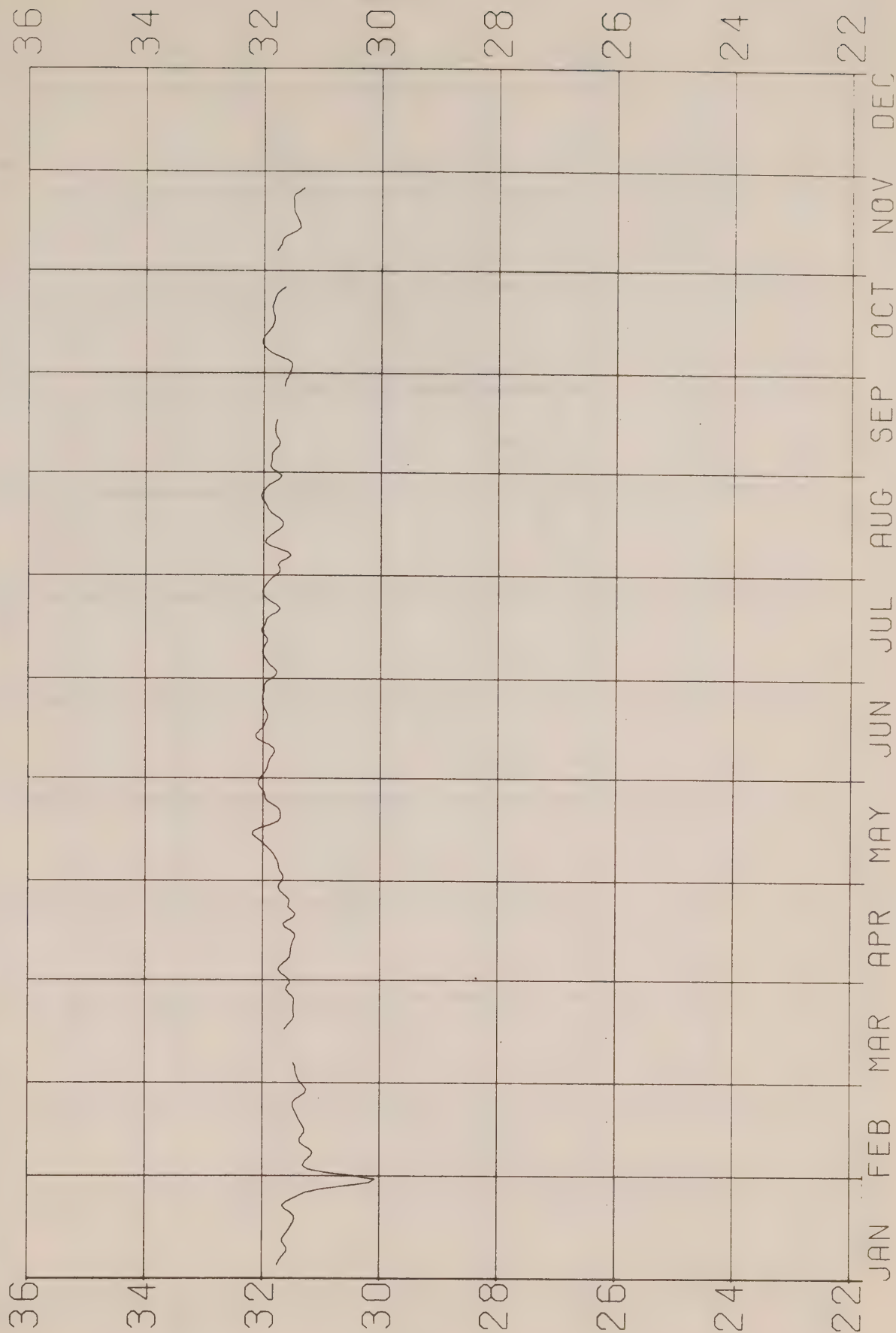
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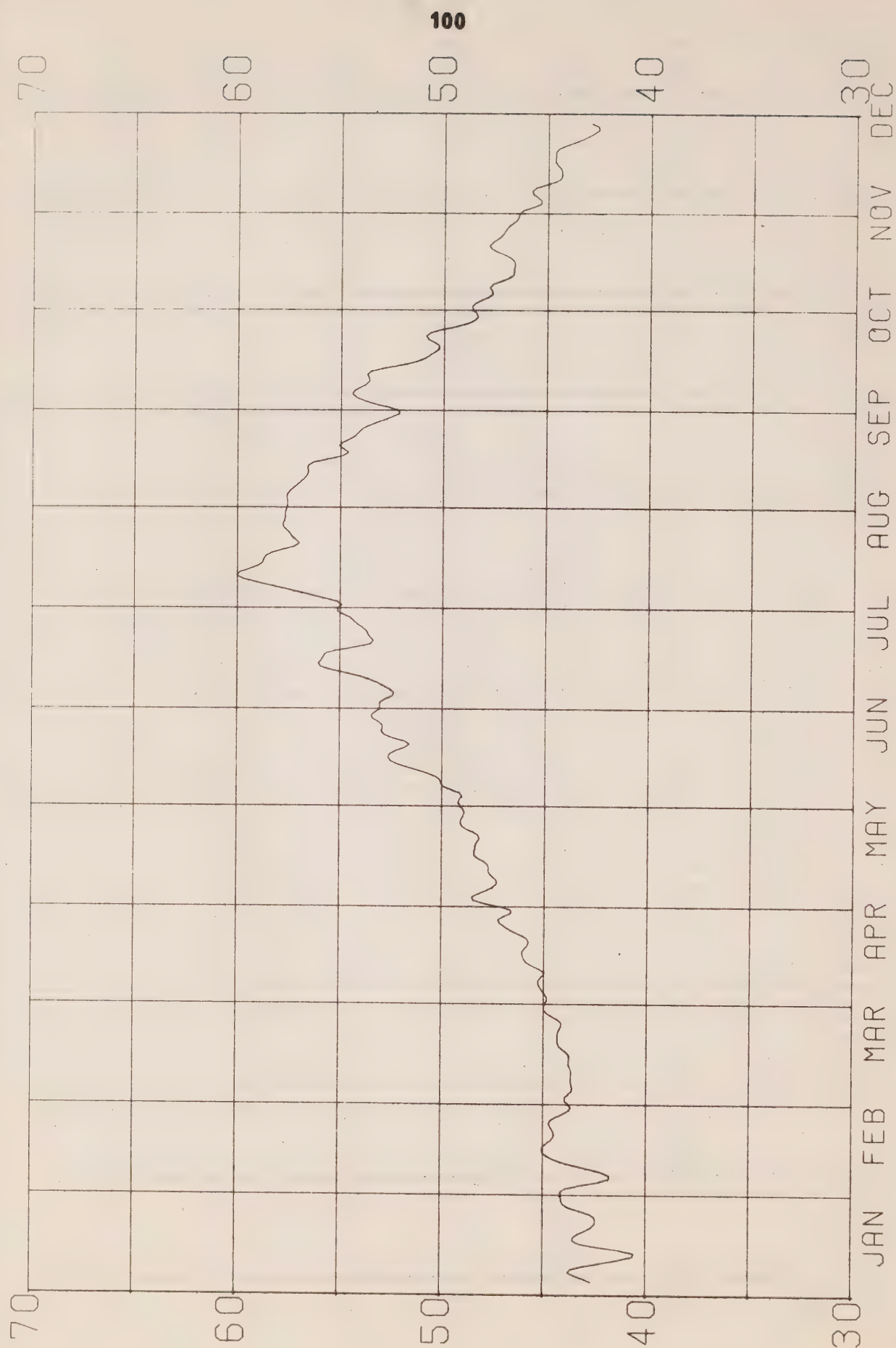
PINE ISLAND

1971 SALINITIES



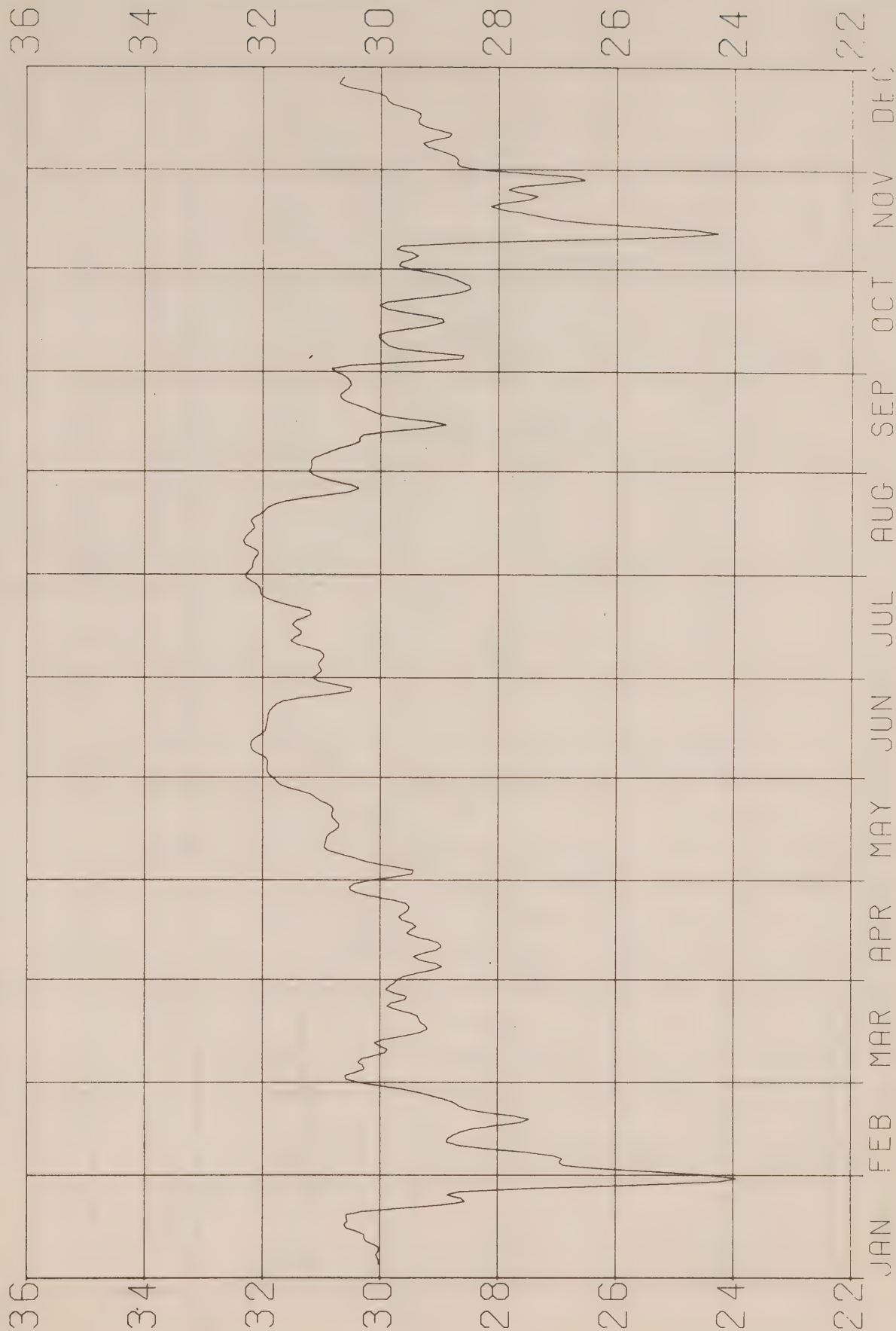
KAINS ISLAND

1971 TEMPERATURE

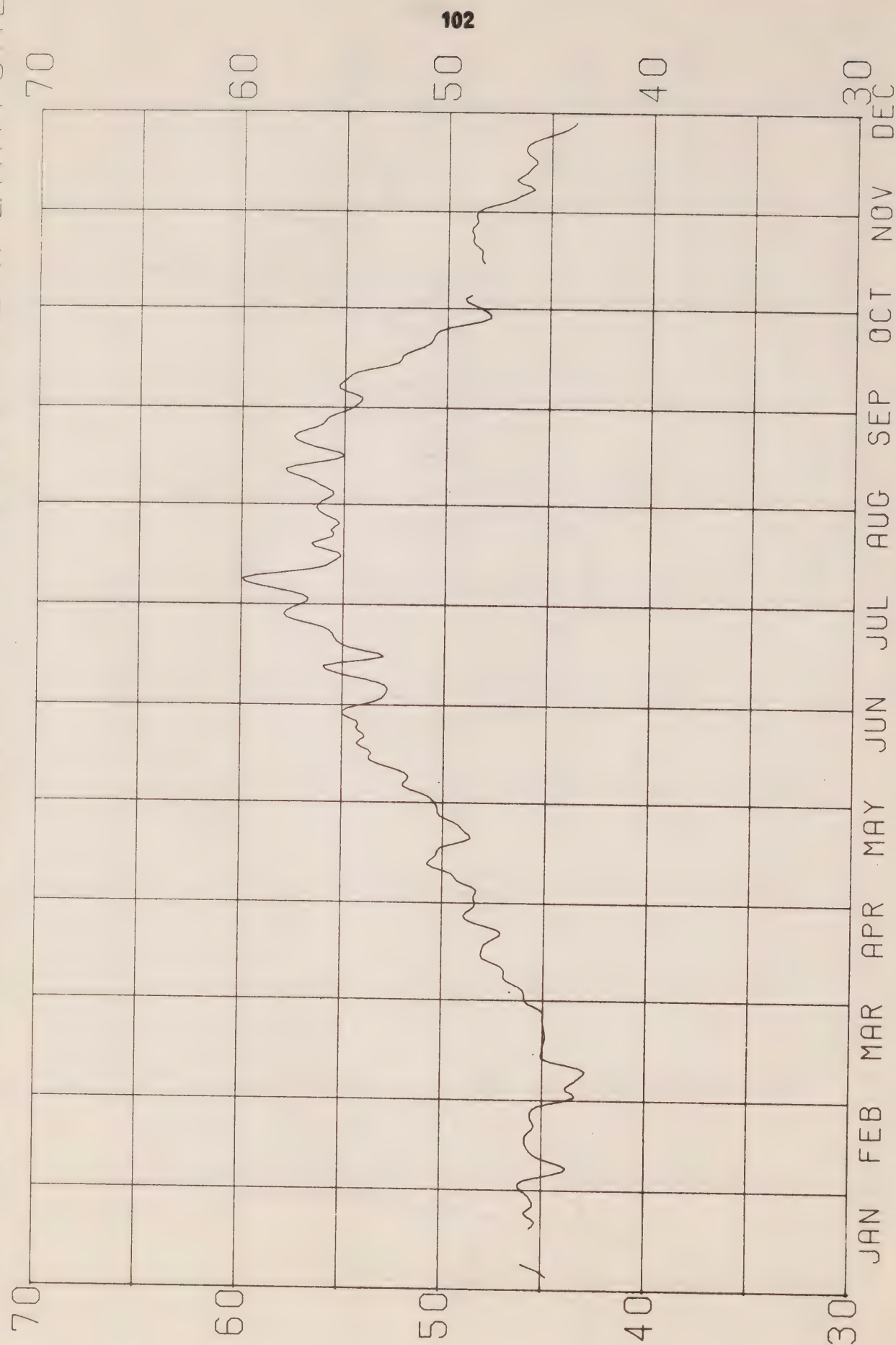


KRAINS ISLAND 1971 SALINITIES

101

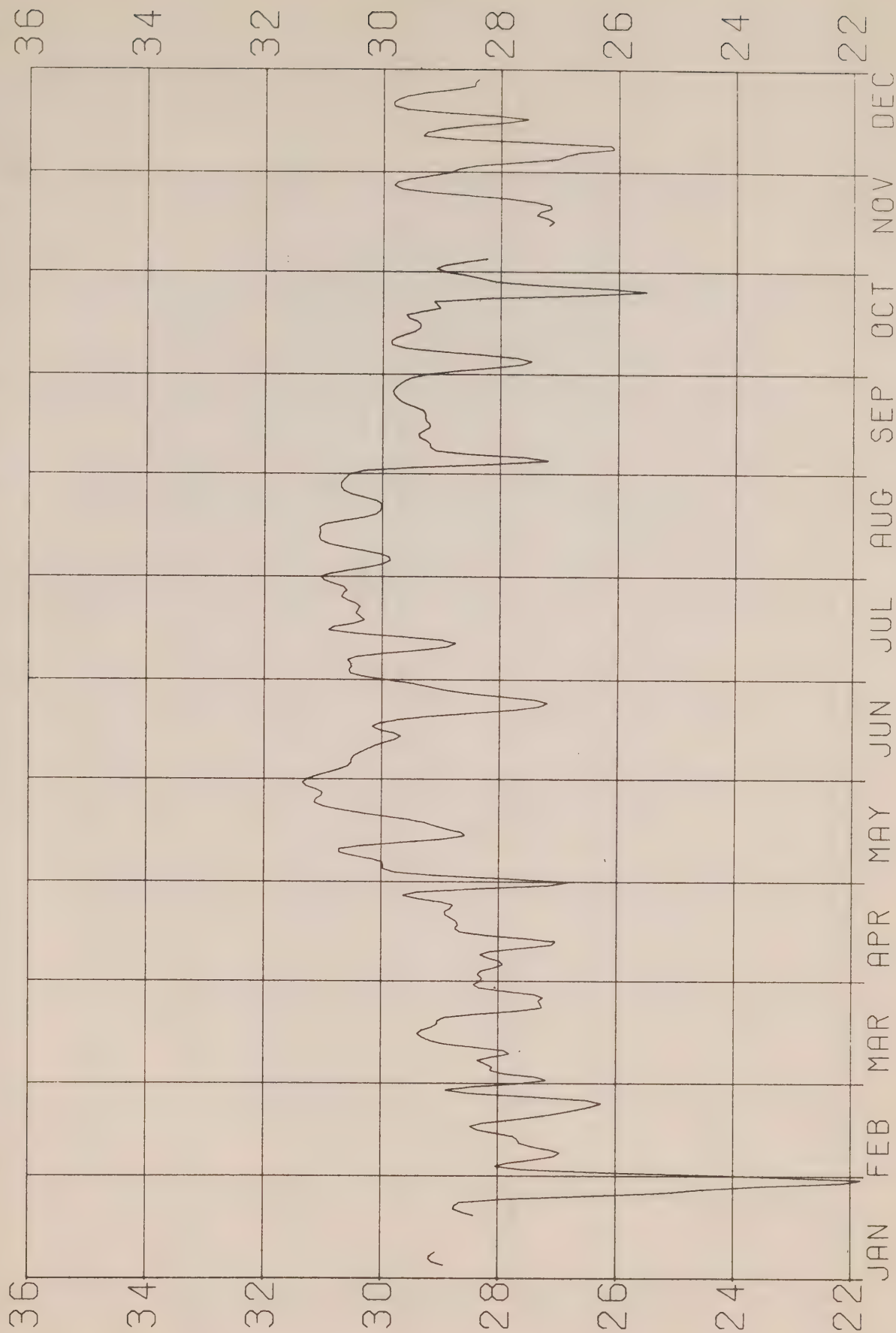


AMPHITRITE POINT 1971 TEMPERATURES

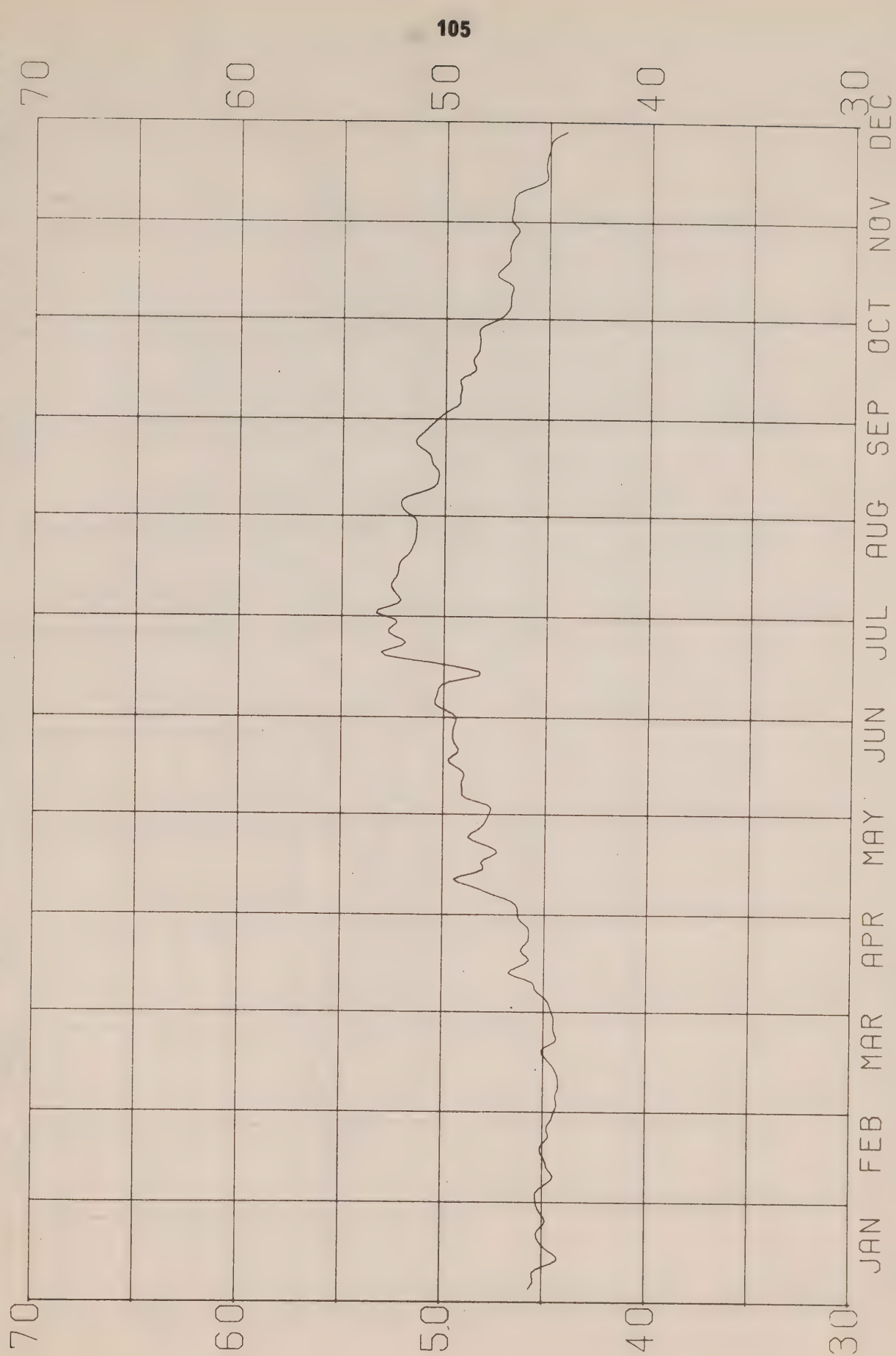


AMPHITRITE POINT

1971 SALINITIES



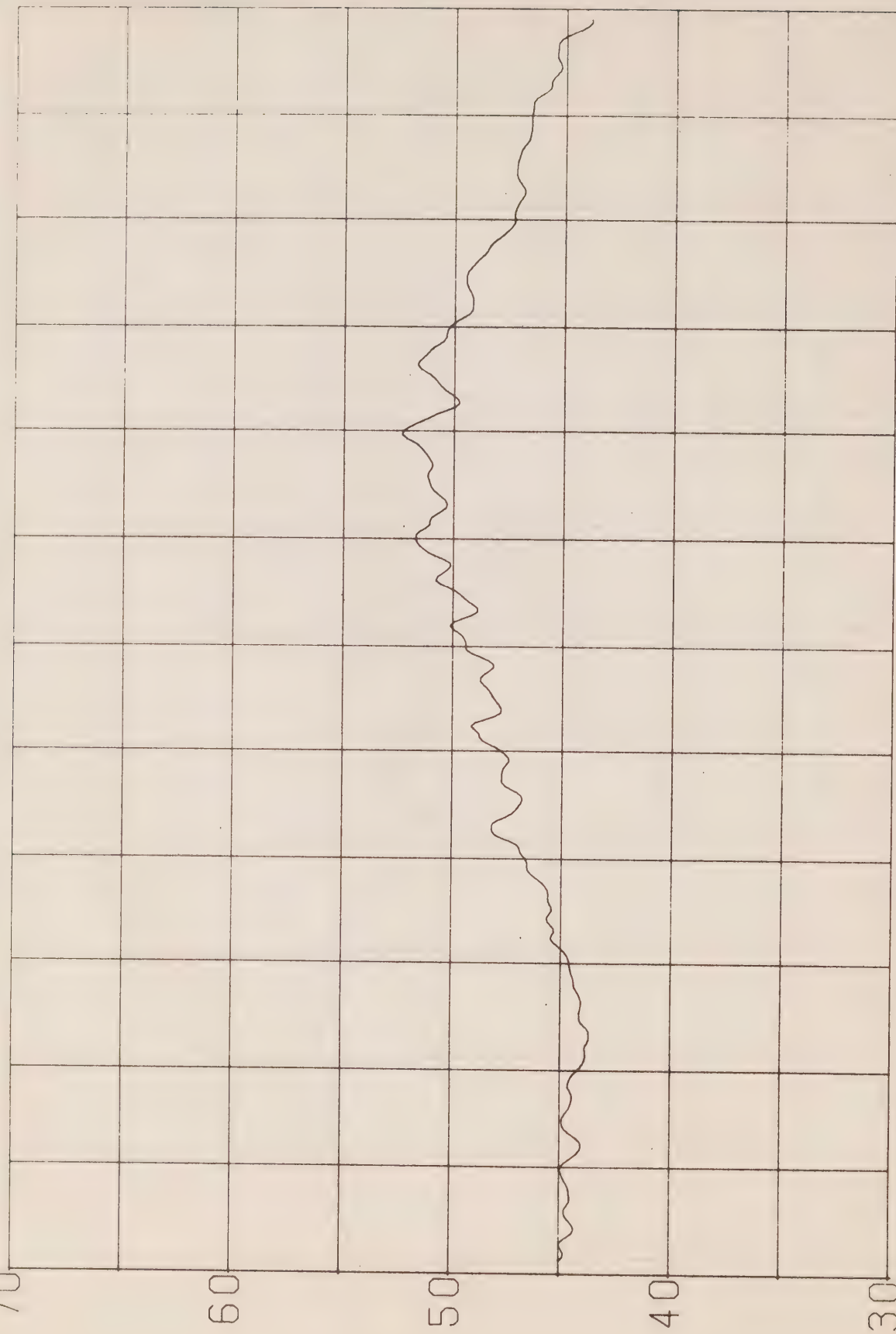
SHERINGHAM POINT 1971 TEMPERATURE



RACE ROCKS

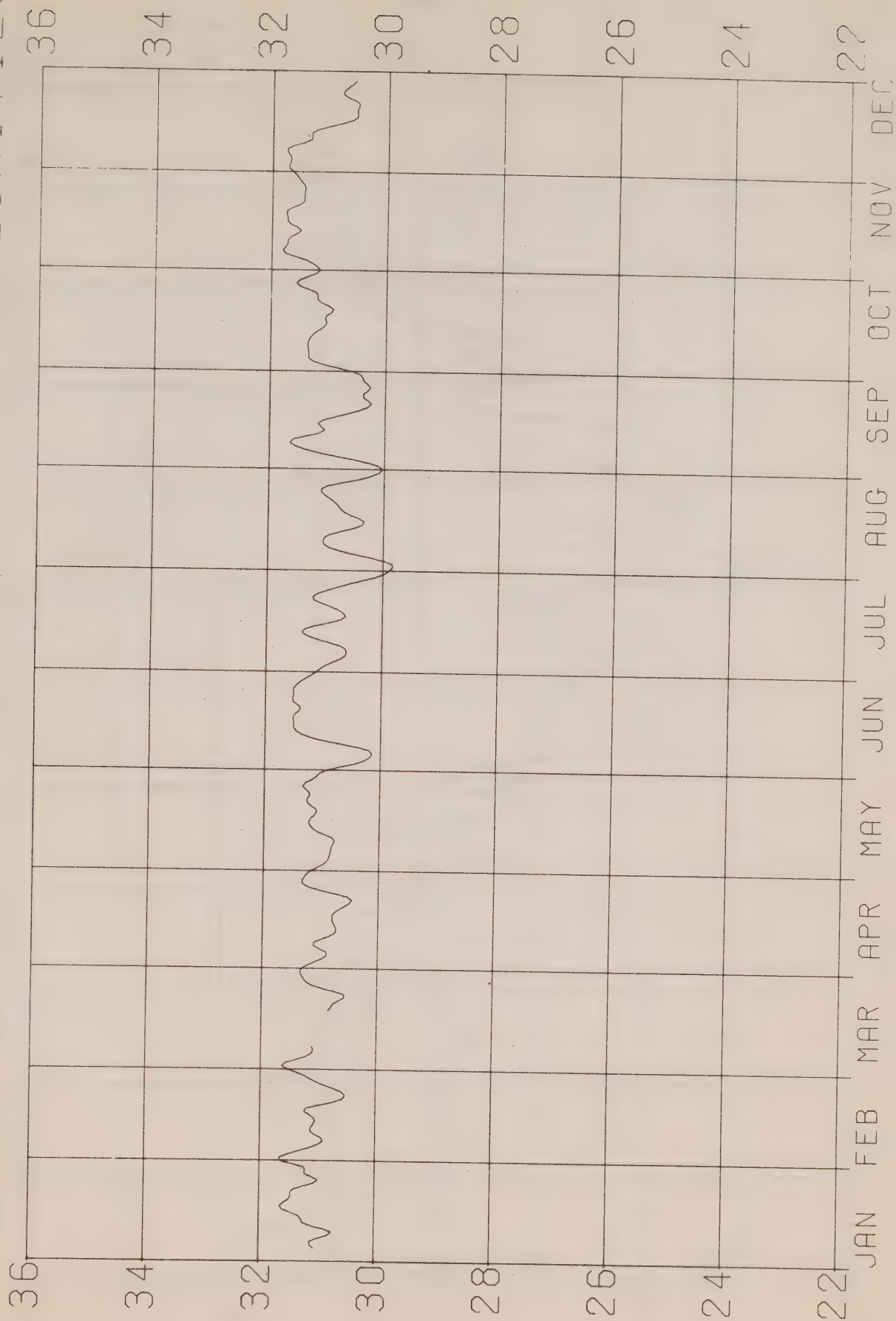
1971 TEMPERATURES

70 60 50 40 30



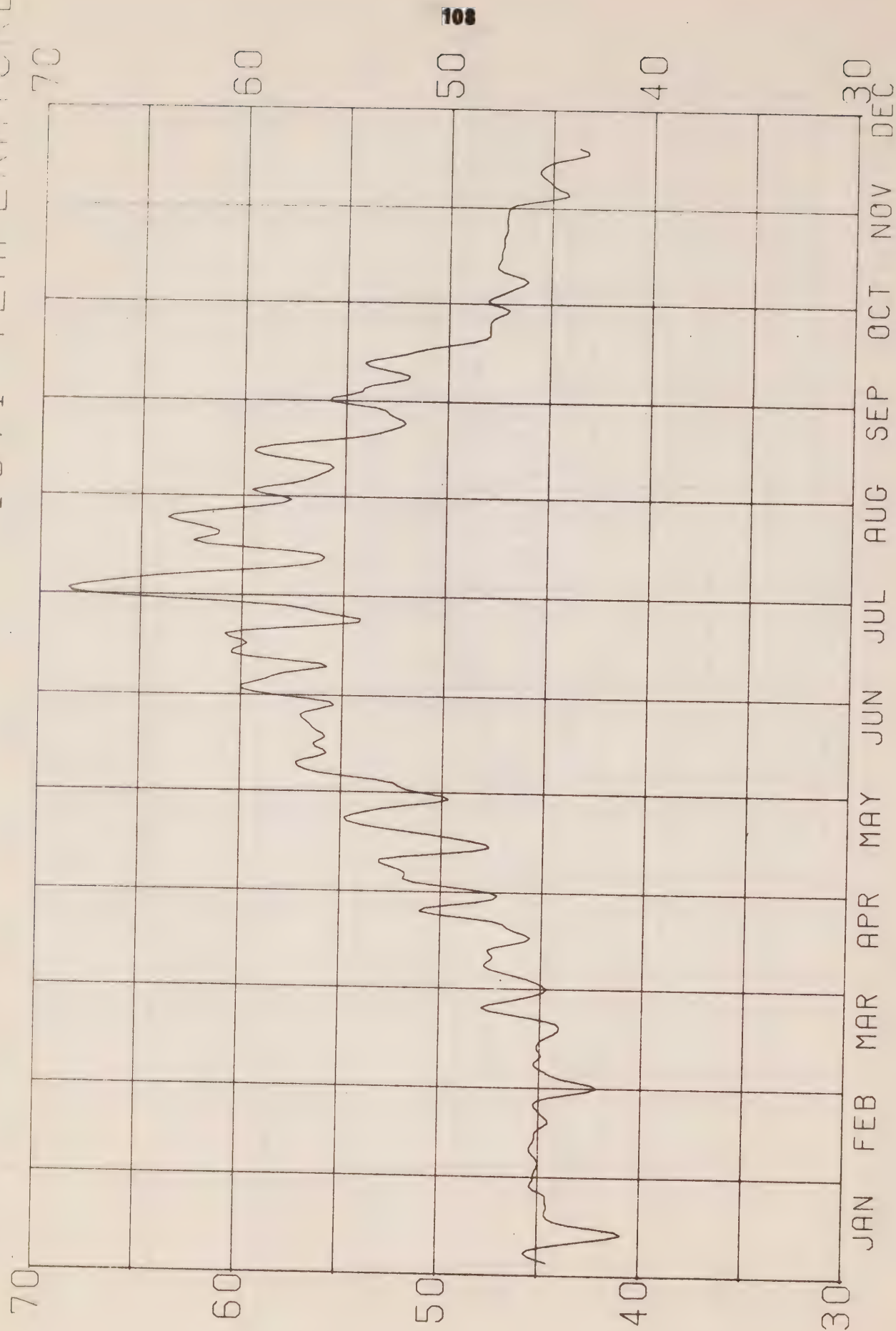
RACE ROCKS

1971 SALINITIES



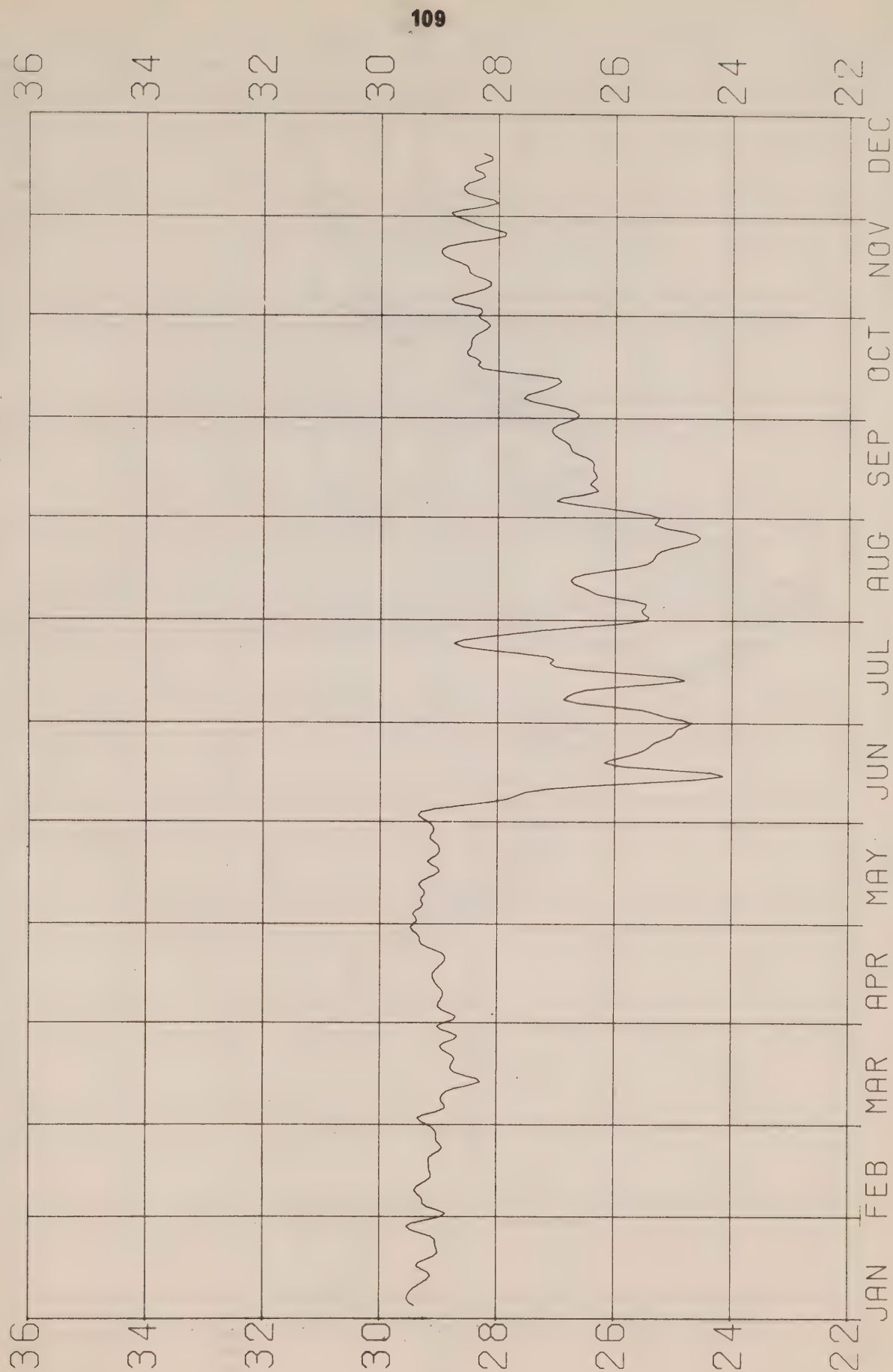
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1971 TEMPERATURES



CAPE MUDGE

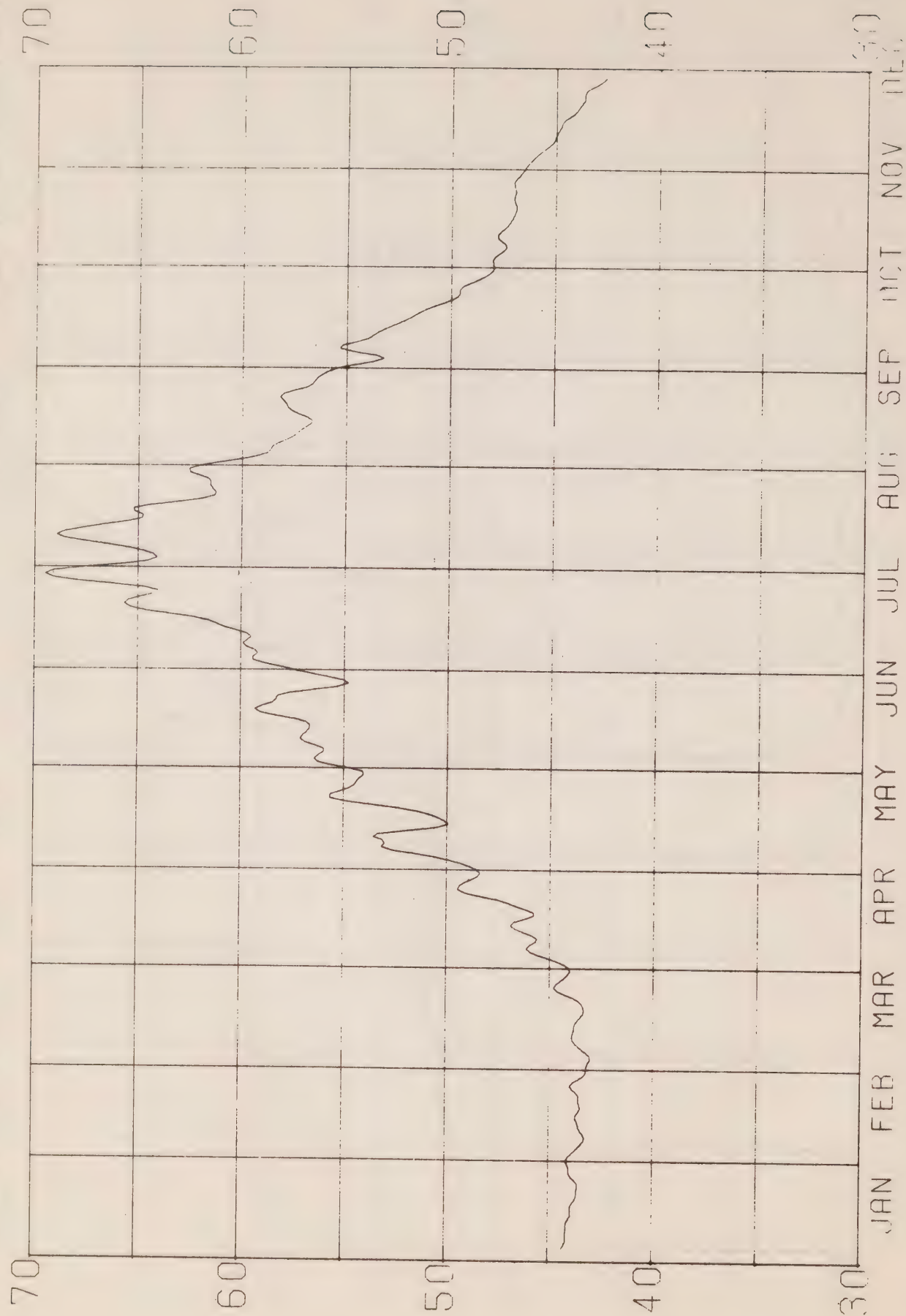
1971 SALINITIES



SISTERS ISLAND

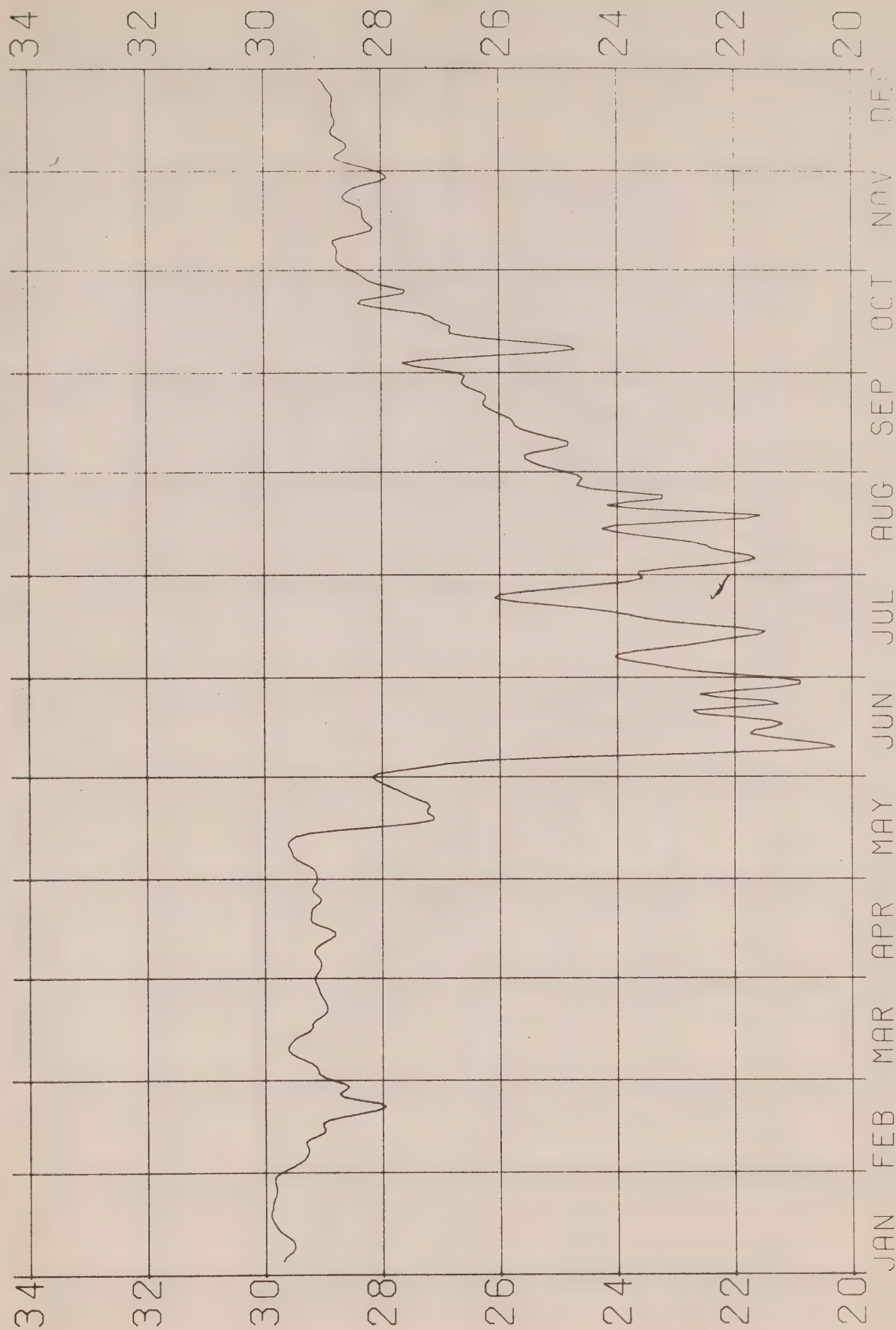
1971 TEMPERATURES

110



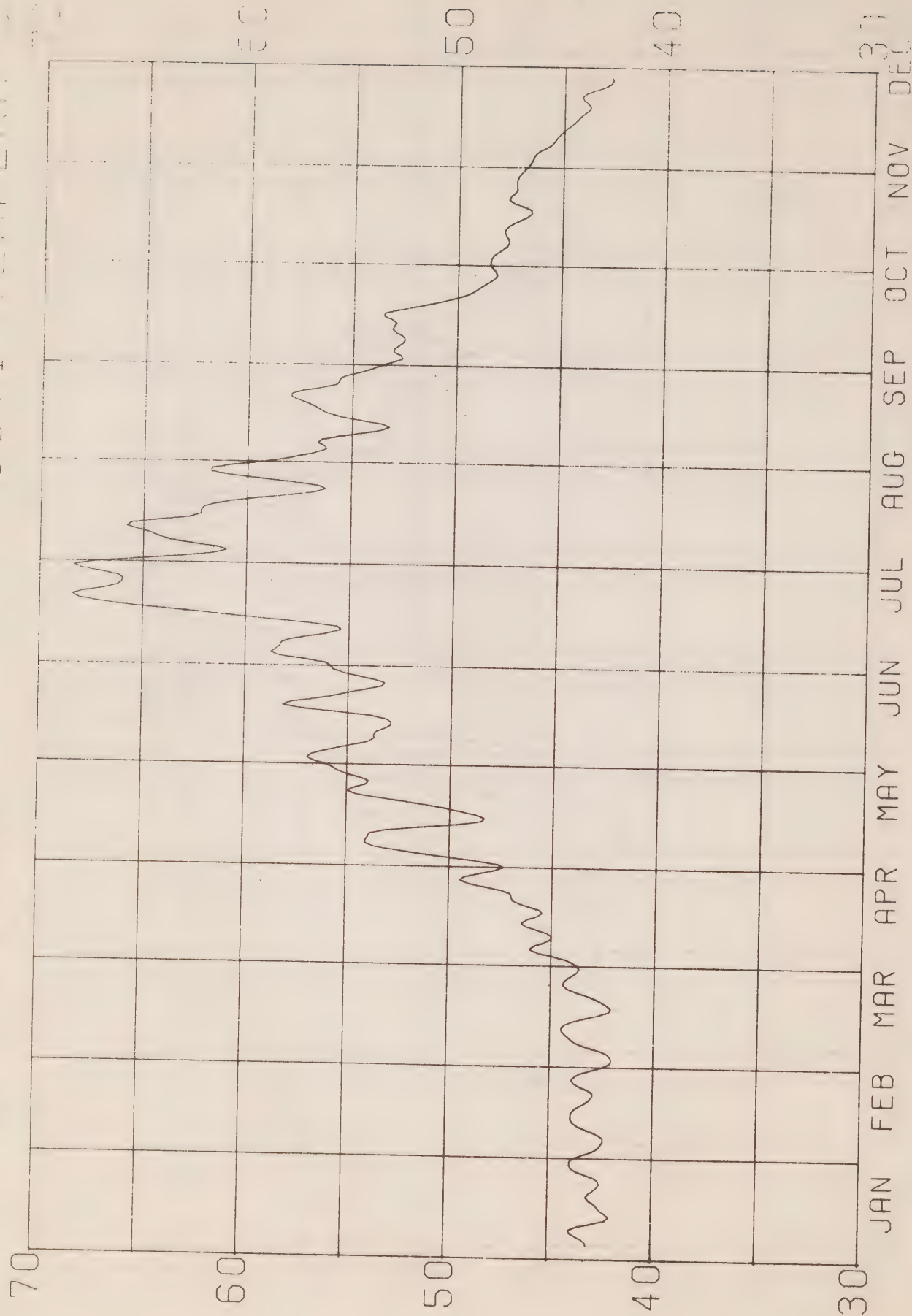
SISTERS ISLAND

1971 SALINITIES



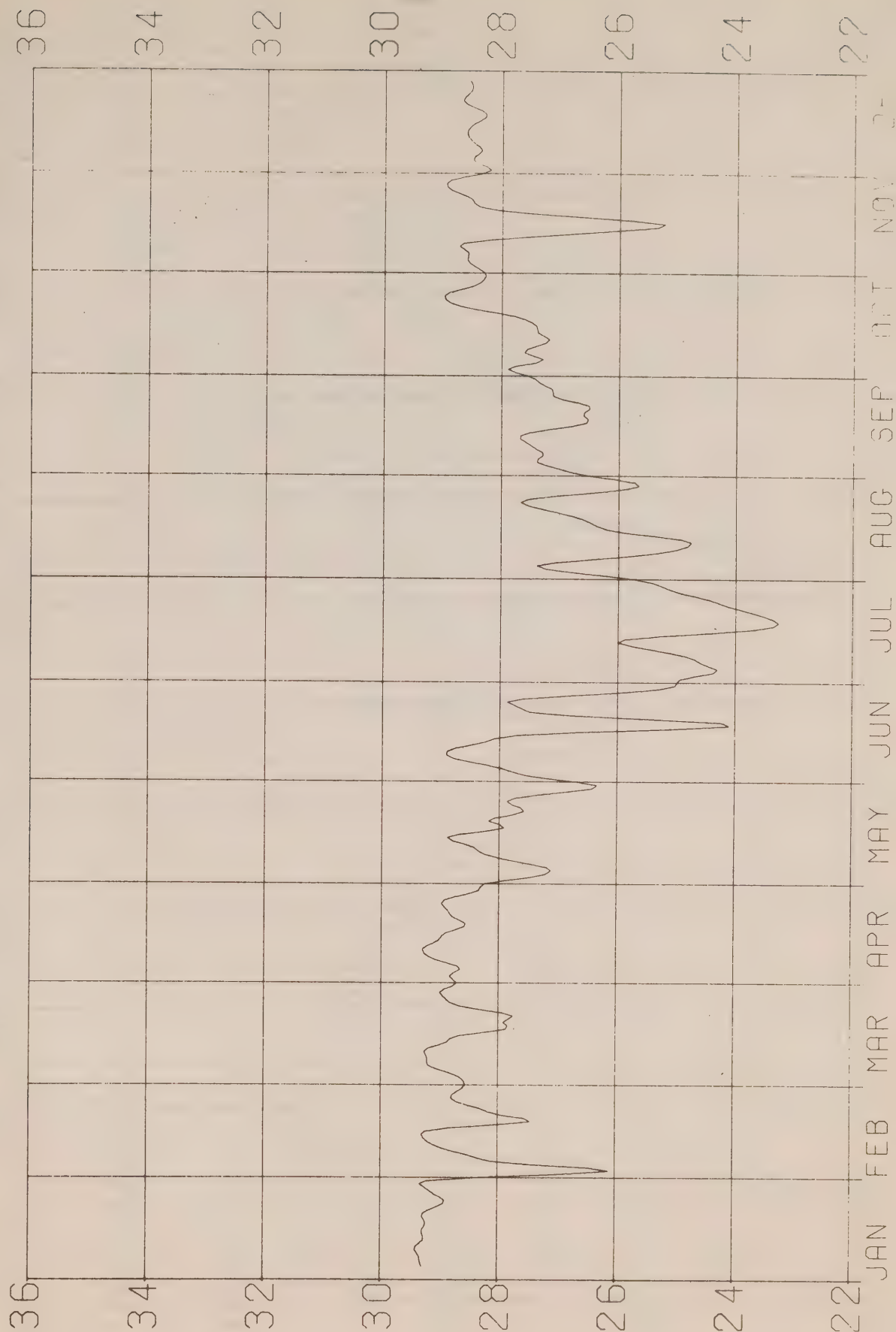
CHROME ISLAND

1971 TEMPERATURE



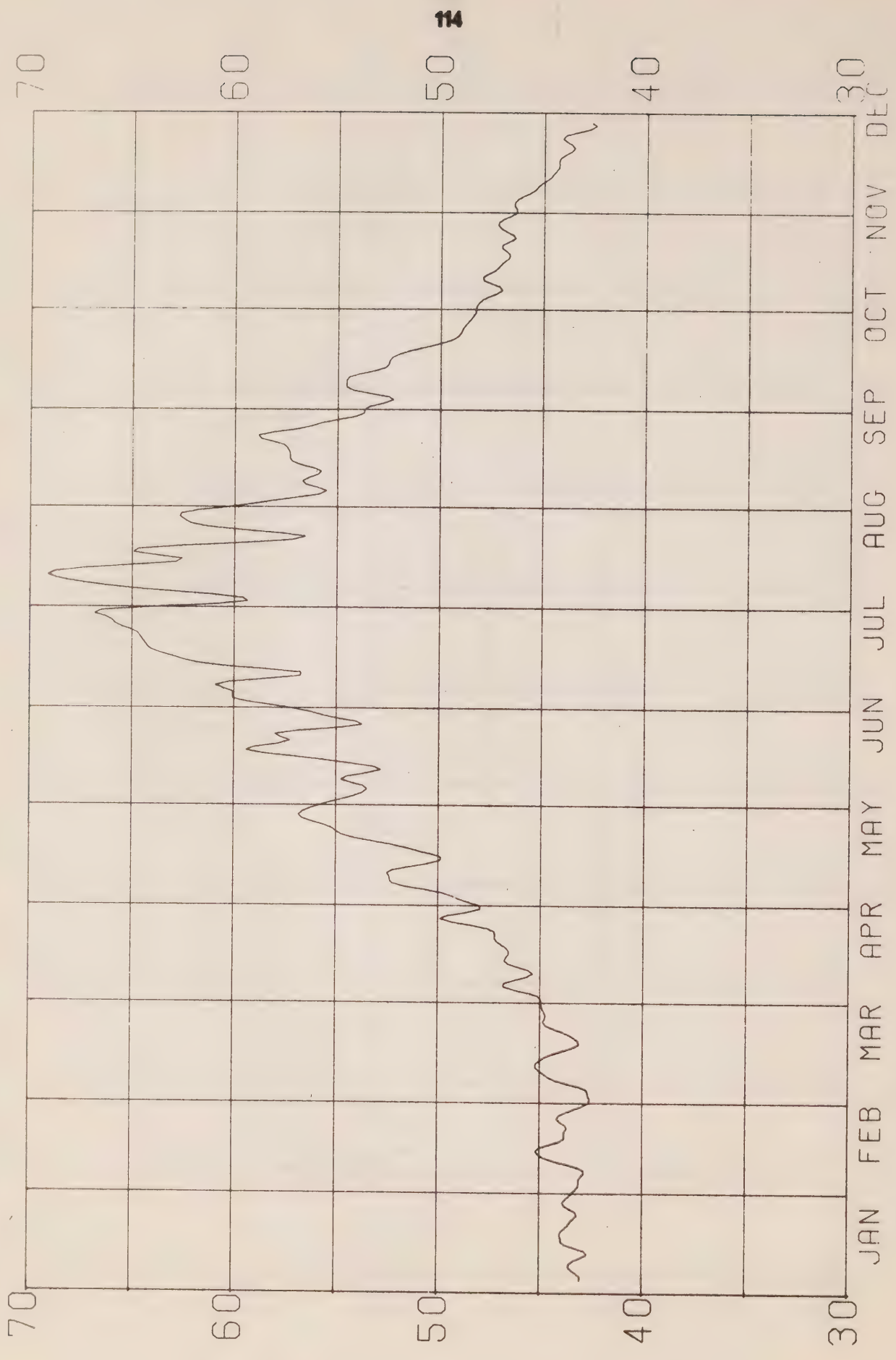
CHROME ISLAND

1971 SALINITIES



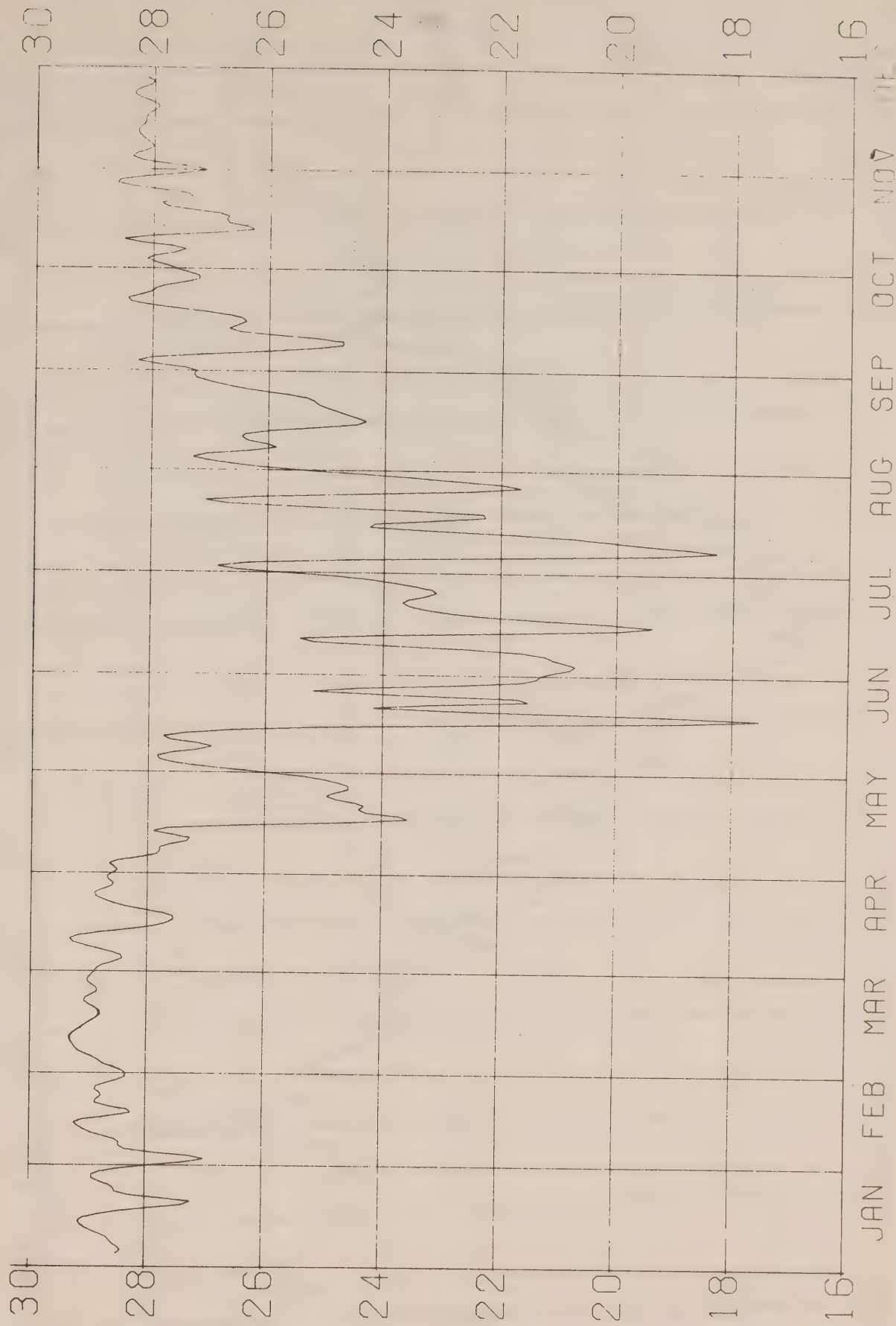
ENTRANCE ISLAND

1971 TEMPERATURES



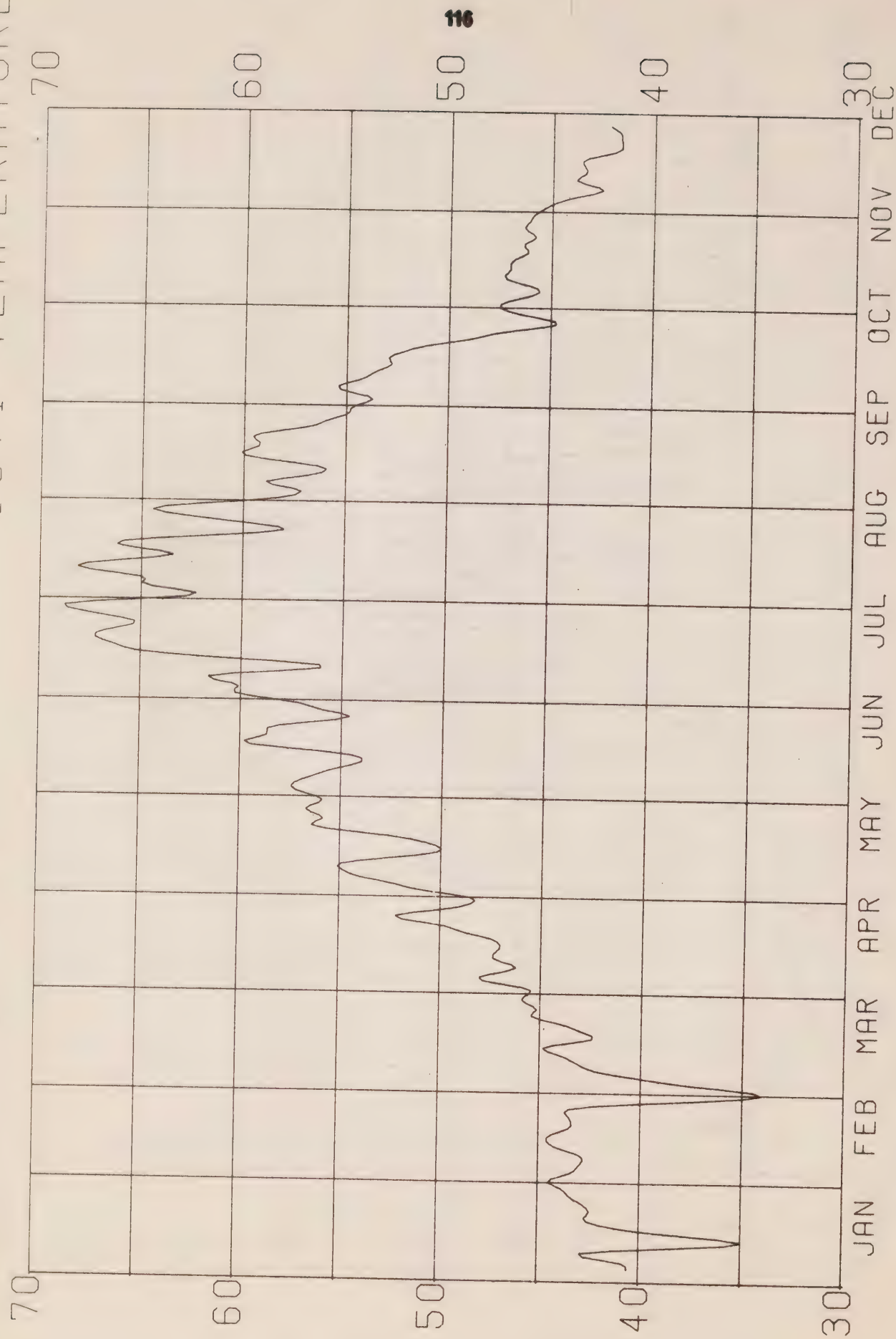
ENTRANCE ISLAND

1971 SALINITIES



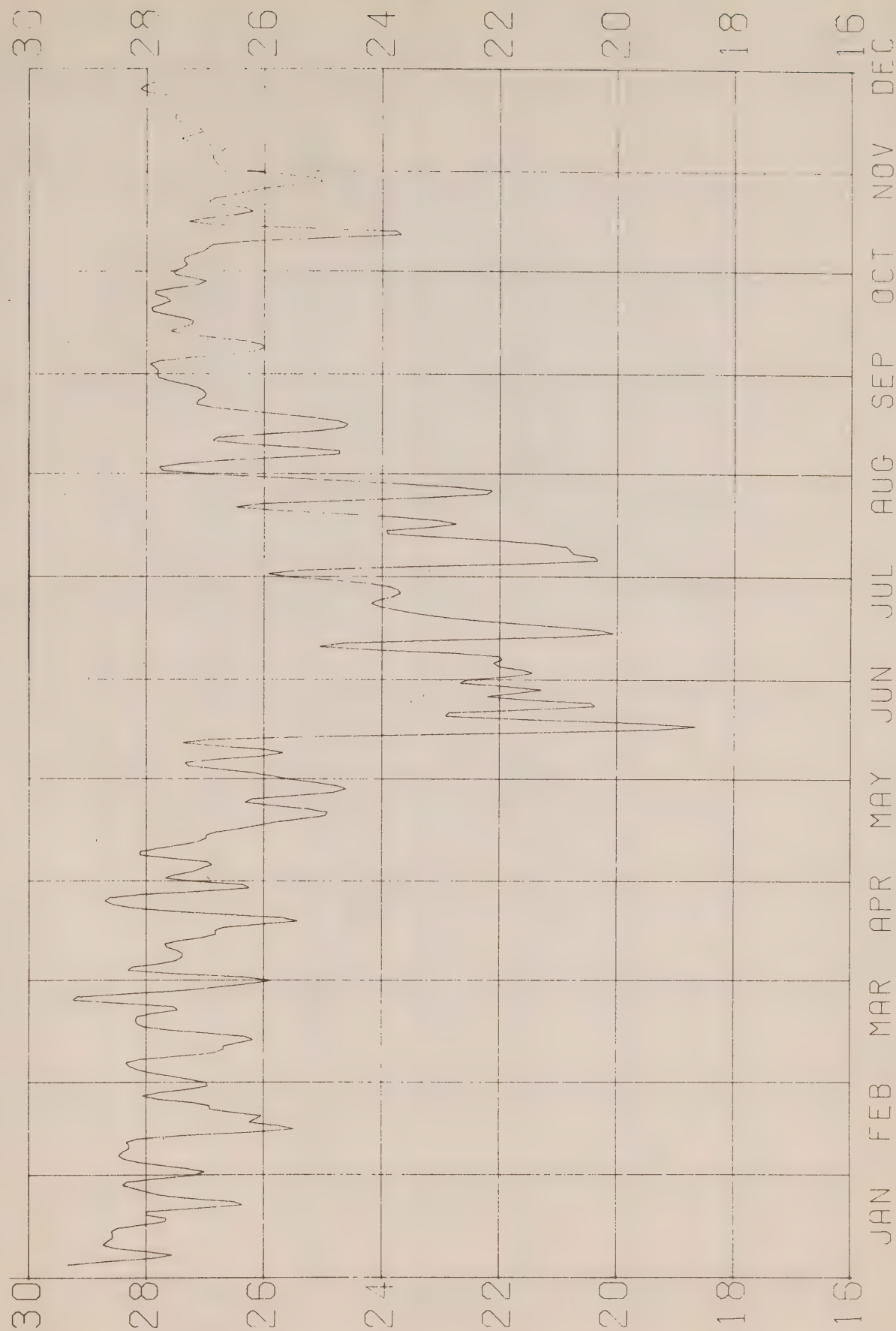
DEPARTURE BAY

1971 TEMPERATURES

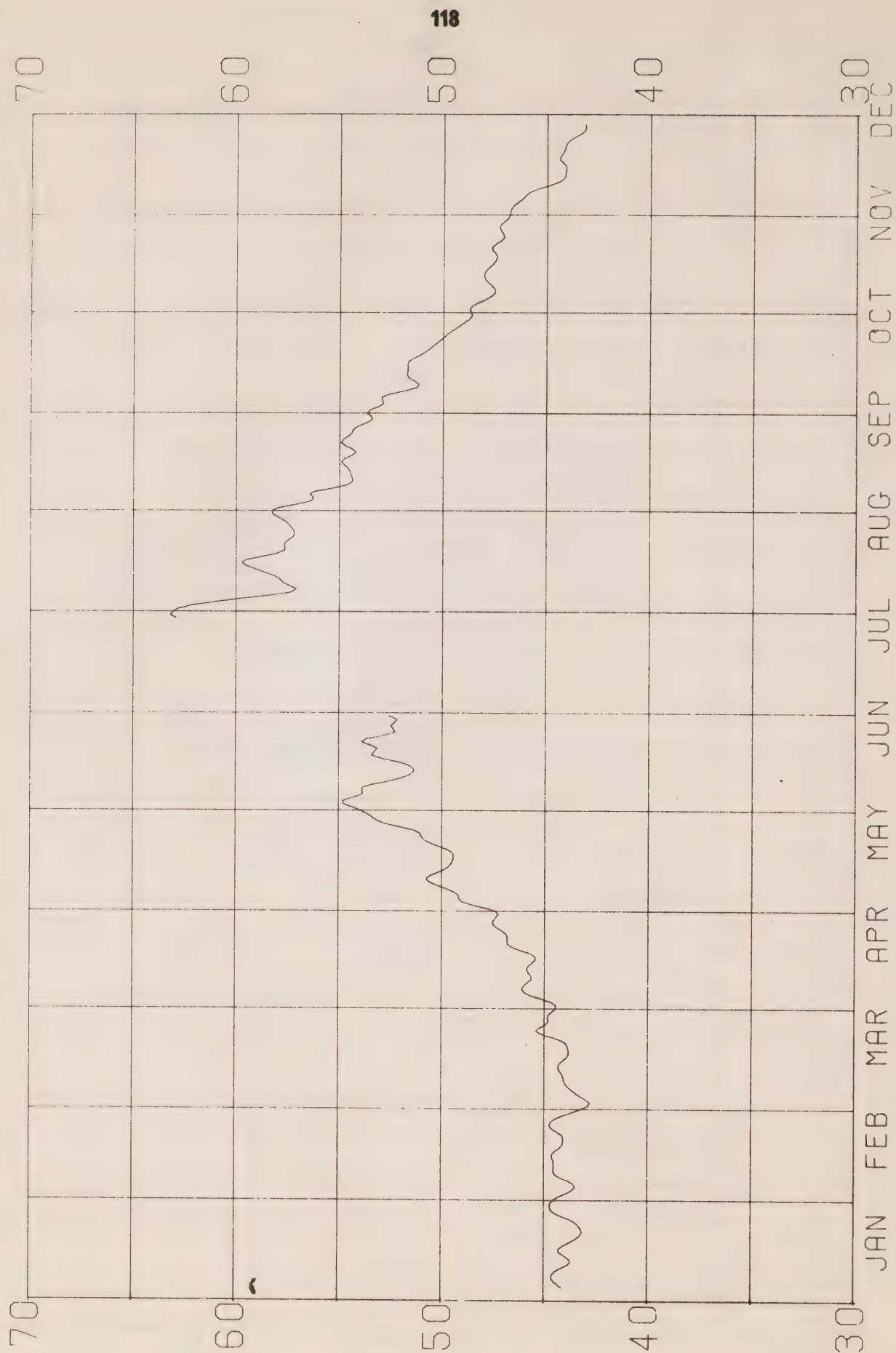


DEPARTURE BAY

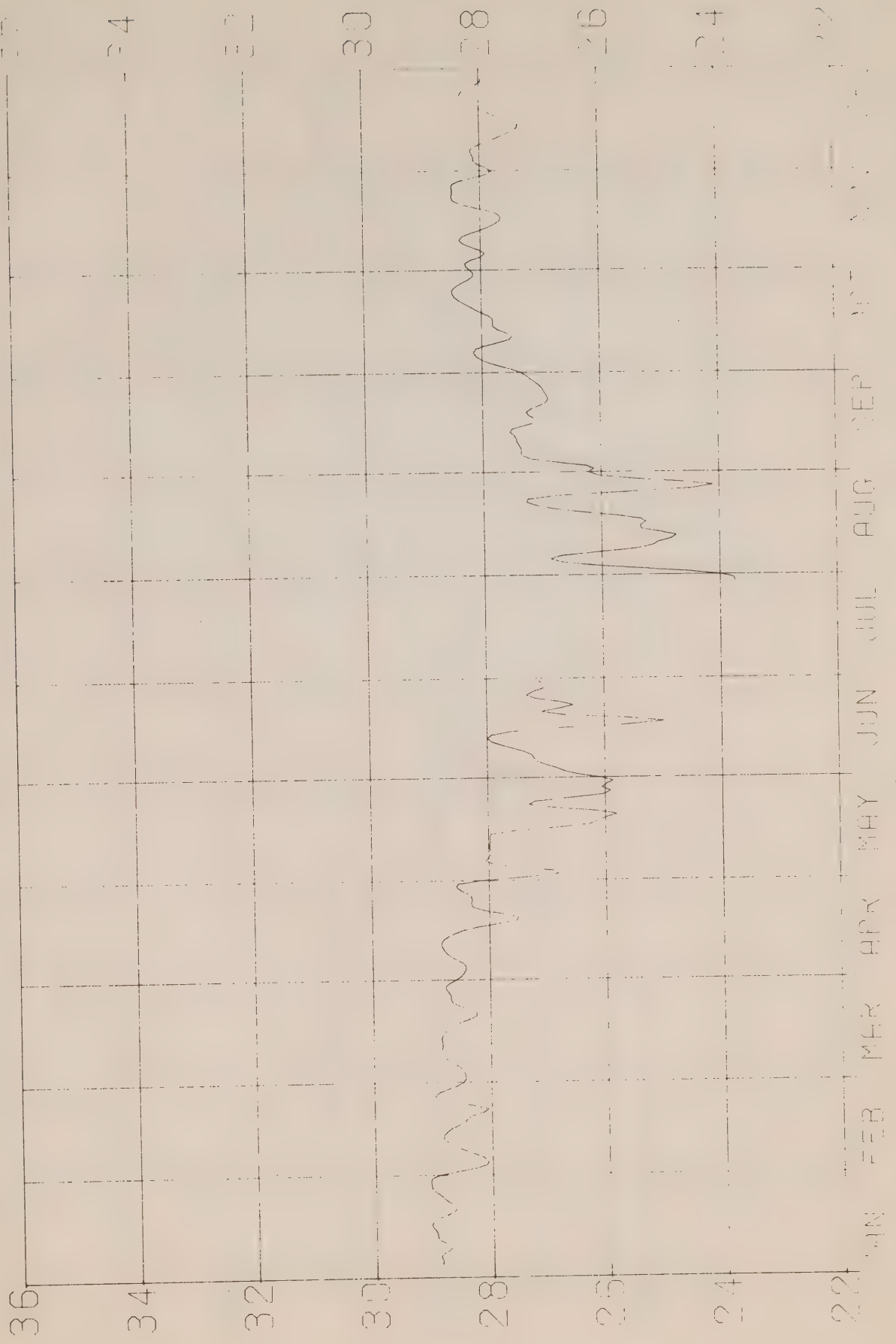
1971 SALINITIES



PORLIER PASS HW 1971 TEMPERATURES

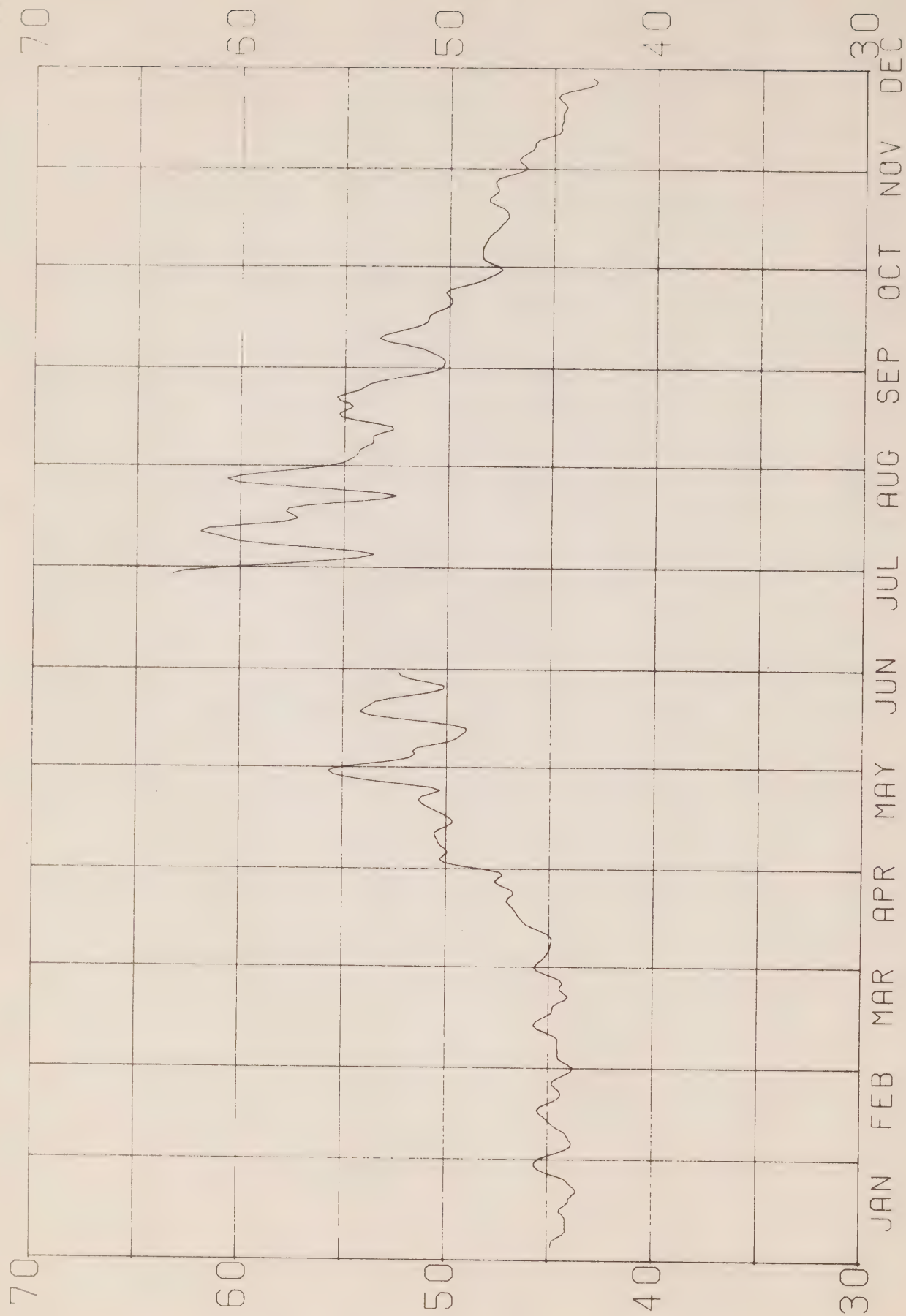


PORLIER PASS HW 1971 SALINITY



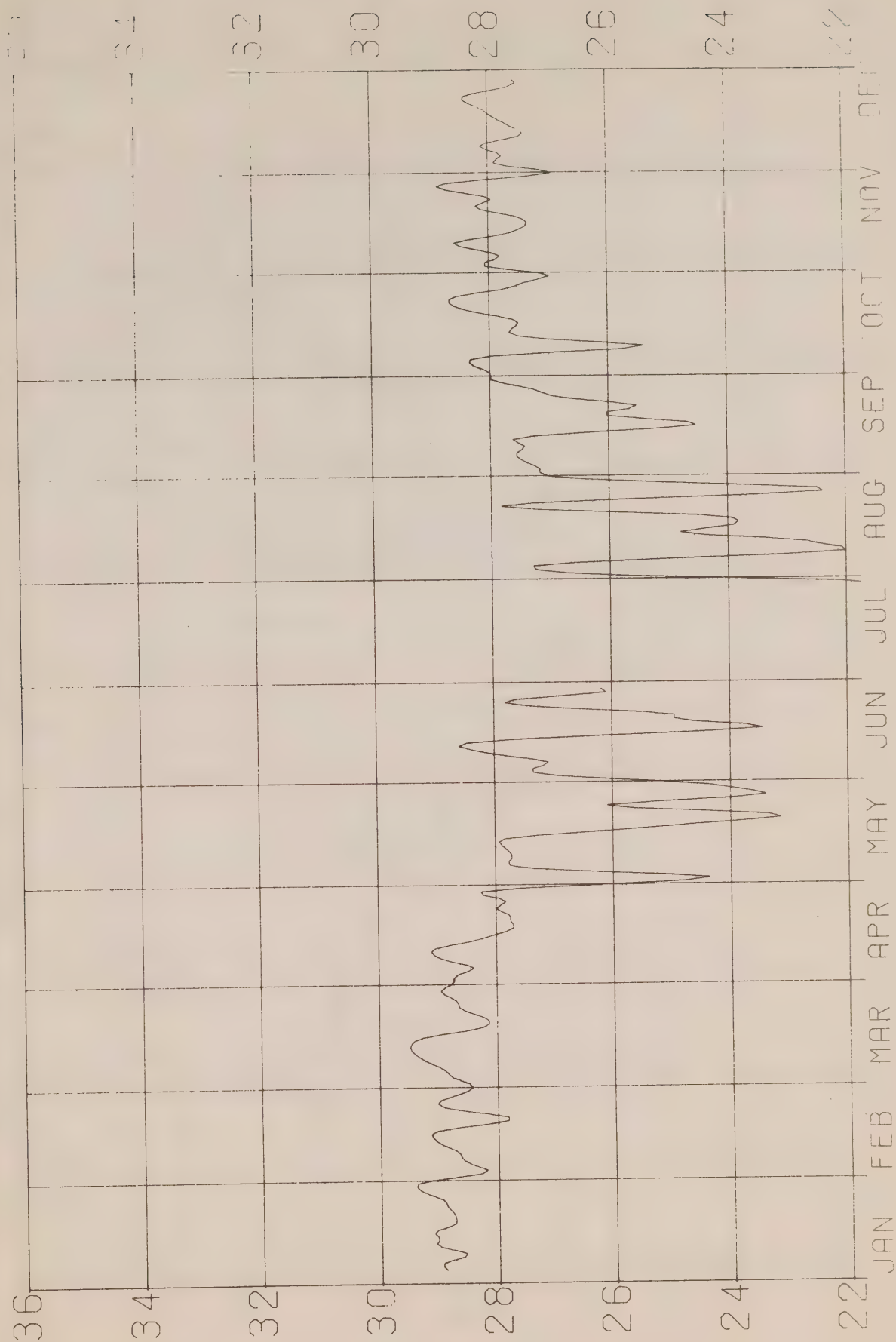
PORLIER PASS LW 1971 TEMPERATURE

120



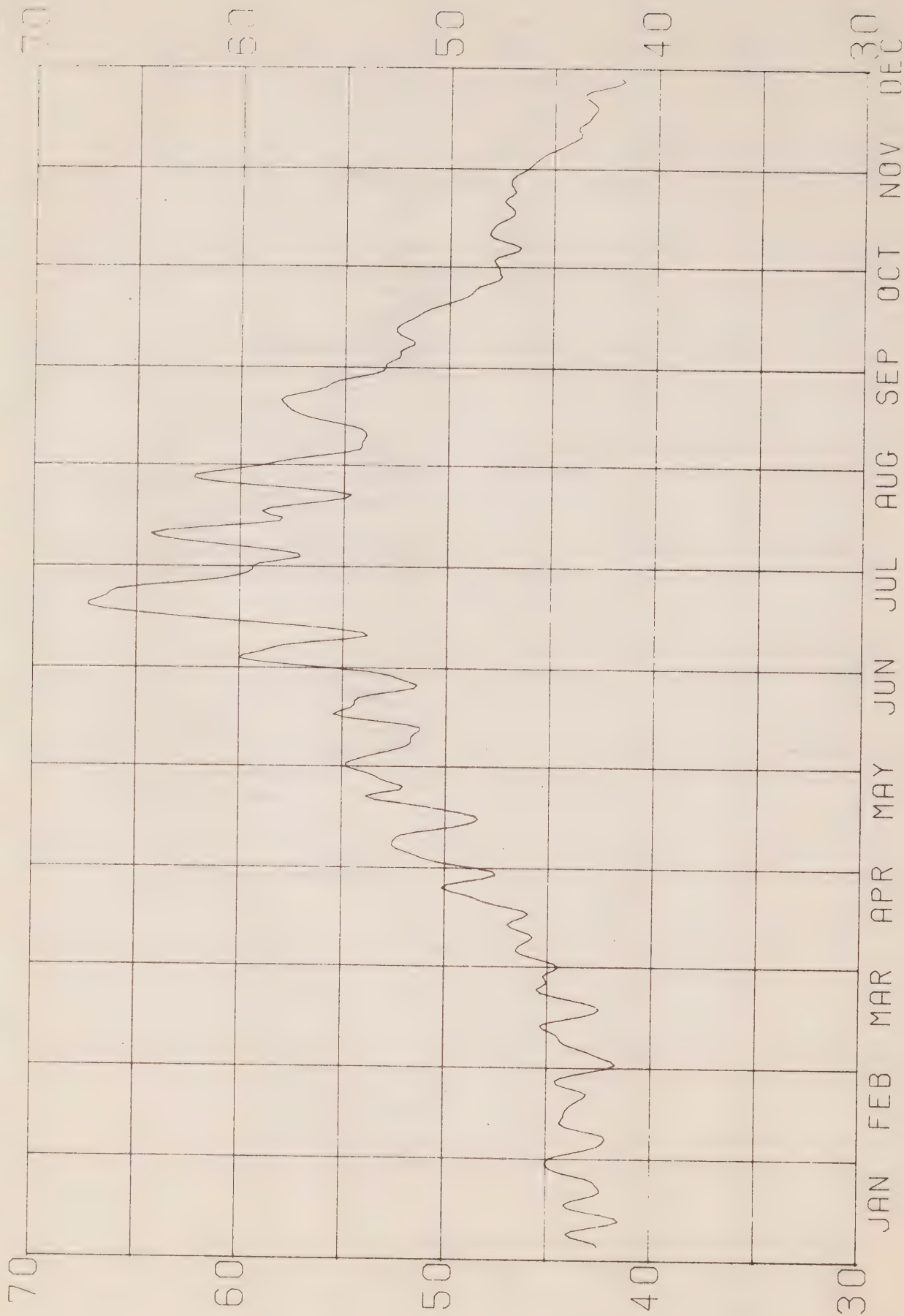
PORLIER PASS LW

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ACTIVE PASS HW

1971 TEMPERATURES



ACTIVE PASS HW

1971 SALINITIES

